Archwilydd Cyffredinol Cymru
Auditor General for Wales

WALES AUDIT OFFICE
SWYDDFA ARCHWILIO CYMRU

Medicines Management in Acute Hospitals

Betsi Cadwaladr University Health Board

Audit year: 2014-15

Issued: September 2015

Document reference: 297A2015

Status of report

This document has been prepared for the internal use of Betsi Cadwaladr University Health Board as part of work performed in accordance with statutory functions.

No responsibility is taken by the Auditor General or the staff of the Wales Audit Office in relation to any member, director, officer or other employee in their individual capacity, or to any third party.

In the event of receiving a request for information to which this document may be relevant, attention is drawn to the Code of Practice issued under section 45 of the Freedom of Information Act 2000. The section 45 Code sets out the practice in the handling of requests that is expected of public authorities, including consultation with relevant third parties. In relation to this document, the Auditor General for Wales and the Wales Audit Office are relevant third parties. Any enquiries regarding disclosure or re-use of this document should be sent to the Wales Audit Office at infoofficer@audit.wales.

The team who delivered the work comprised Sara Utley, Stephen Pittey and Nigel Blewitt.

Contents

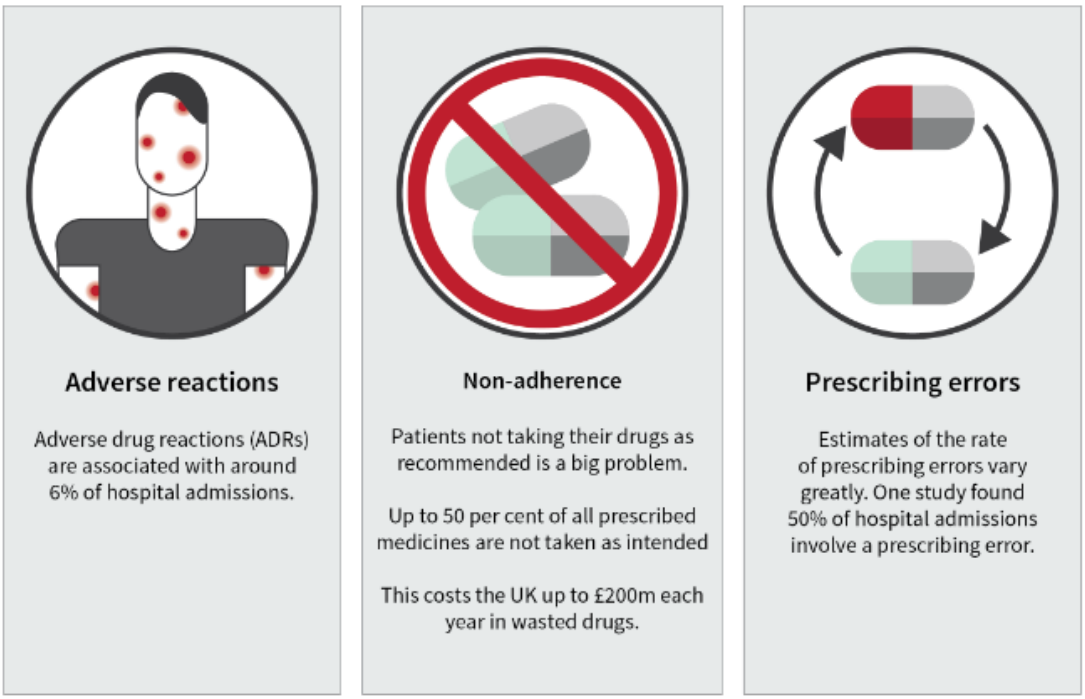
Medicines management is well led and well resourced although organisational barriers limit engagement across the wider Health Board. There are also inequities across sites and scope to improve medicine storage, performance monitoring and a number of key medicines management processes.

Summary report

Background

1. The most common therapeutic intervention in the NHS is prescribing of medicines.[1] In 2013-14, Welsh health bodies spent £258 million on purchasing drugs (eight per cent more than 2012-13)[2].
2. 'Medicines management' covers much more than the purchase of drugs. The term covers all the processes and behaviours that influence the clinical and cost-effective use of medicines as well as positive outcomes for patients.
3. Patients' medicines need to be managed well to ensure their treatment and recovery is optimised and to ensure value for money is secured from their medication. Exhibit 1 shows the main sources of harm to patients from poor medicines management.

Exhibit 1: Key facts about the three main sources of harm from medicines



Source: The footnotes contain the sources of data on adverse reactions[3], prescribing errors[4] and non-adherence[5],[6]

[1] 1000 Lives Plus – www.1000livesplus.wales.nhs.uk/medicines

[2] Wales Audit Office analysis of NHS financial returns, including expenditure within primary care and secondary care.

[3] Pirmohamed et al, **Adverse drug reactions as cause of admission to hospital: prospective analysis of 18820 patients**, British Medical Journal, 2004; 329(7456), 15-19.

[4] Lewis et al, **Prevalence, incidence and nature of prescribing errors in hospital inpatients: a systematic review**, Drug Saf 2009; 32:379-89

[5] 1000 Lives Plus, **Achieving prudent healthcare in NHS Wales**, June 2014

[6] Royal Pharmaceutical Society of Great Britain, From Compliance to Concordance – Achieving Partnership in Medicine-Taking, RPSGB, London, 1997. Shapps, Grant, **A bitter pill to swallow: A report into the cost of wasted medicine in the NHS**, June 2007.

4. In May 2014, an independent review[7] at Abertawe Bro Morgannwg University Health Board, called **Trusted to Care** (The Andrews Report), highlighted serious problems with the administration and recording of medicines. After **Trusted to Care**, the Minister for Health and Social Services ordered unannounced spot checks at 20 hospitals across Wales. The main findings from the spot checks were the need to improve standards in administering medication, medicine storage and completing medication charts.

5. **Trusted to Care** also emphasised the importance of all types of healthcare professionals working together to manage patients' medicines. Pharmacy staff are at the centre of medicines management but staff from all disciplines have a major role to play, as set out in guidance from representative bodies[8,9]. Patients also need to be empowered to help them get the best out of their medication.

6. Prudent prescribing of medicines is a key focus within the Welsh Government's 'prudent healthcare' agenda. The principles of prudent healthcare are to minimise avoidable harm, carry out the minimum appropriate intervention and promote equity between people who provide and use services. The key aspects of prudent prescribing are therefore about safe prescribing that minimises adverse drug reactions, conservative prescribing to avoid patients taking medicines unnecessarily, and fully involving patients in decisions about their own care.

7. Medicines management is a quickly changing agenda because of new technologies, new drugs, and the redesign of services. Given that medicines expenditure is one of the highest areas of NHS spending, austerity is also driving change in medicines management, with organisations revisiting treatment pathways to ensure clinically-appropriate and cost effective treatments are provided at the right time. For these reasons we consider it is now a good time to look at the issues across Wales.

8. Our study follows on from previous local audit work we have undertaken on primary care prescribing. It focuses on aspects of medicines management that directly impact on inpatients at acute hospitals. We cover medication information provided by GPs to support admissions, medication reviews that patients receive during their stay, the support patients are given to take their medicines and the arrangements to ensure good medicines management after discharge. We exclude procurement and largely exclude the supply of medicines.

9. In this report we refer to the position at selected hospital sites in Betsi Cadwaladr University Health Board (the Health Board) and we also present data from a series of ward visits and patient reviews conducted across a sample of wards which included: two General Surgical, two General Medicine, two Mental Health, one acute admission unit and one renal unit. When reviewing this information it is important to note that our findings relate to specific aspects of medicines management that we audited at a specific point in time. Appendix 1 shows full details of our methodology.

10. At the Health Board our review sought to answer the following question: **Are there safe, efficient and effective arrangements for inpatient medicines management at acute hospitals?**

11. The key findings from our work are set out below and are considered further in the more detailed section of the report.

[7] Professor June Andrews, Mark Butler, **Trusted to care: An independent review of the Princess of Wales Hospital and Neath Port Talbot Hospital at Abertawe Bro Morgannwg University Health Board**, May 2014

[8] Nursing and Midwifery Council, **Standards for Medicines Management**

[9] General Medical Council, **Good practice in prescribing and managing medicines and devices**, 31 January 2013

Key findings

12. Our overall conclusion is: **Medicines management is well led and well resourced although organisational barriers limit engagement across the wider Health Board. There are also inequities across sites and scope to improve medicine storage, performance monitoring and a number of key medicines management processes**. The table below sets out our key findings in more detail.

Corporate arrangements: Leadership of medicines management is good but the absence of a formal strategy and organisational barriers limit engagement from the wider Health Board

- The Clinical Programme Group has good leadership and clinical engagement but the future arrangements are undecided and pharmacy is not represented on the boards of other Clinical Programme Groups.
- The Health Board has a clear direction for medicines management but there is not yet a formal strategy.
- In common with other health boards, the pharmacy team has limited formal enagagement involvement in senior decision-making forums.
- There is regular scrutiny of financial information but savings plans were ambitious and are limited to primary care. The Health Board appears to be managing individual patient funding requests in a different way to the rest of Wales, but a high percentage of applications do receive the requested funding without the need for a full IPFR panel.

Workforce: Pharmacy appears well resourced and respected by colleagues with a strong commitment to nurse training but there are differing arrangements across sites and some training needs to be improved

- Pharmacy services appear comparatively well resourced although the overall staffing profile and the perceptions of high workload are similar to the rest of Wales.
- There is a strong commitment to nurse training within the Health Board, however, junior doctor and pharmacy staff training at Ysbty Glan Clwyd and Wrexham Maelor could be improved.
- There are good relationships on the wards although the model of clinical services varies across sites.
- Pharmacy services are generally accessible and responsive but there needs to be a strategic decision about the approach to extended pharmacy opening hours and extended working of other Health Board services.

Facilities: Pharmacy facilities comply with the vast majority of key requirements but there are weaknesses in the Ysbyty Glan Clwyd aseptic unit and issues remain with ward storage of medicines

- Pharmacy facilities comply with the vast majority of key requirements but the location of the Ysbyty Glan Clwyd pharmacy is not ideal.
- The aseptic unit at Ysbyty Glan Clwyd was given a high risk rating by external inspectors and in common with the rest of Wales the preparation of injectable medicines on the wards is not routinely audited.
- The Health Board has more automated vending machines than average although issues remain in relation to the storage of controlled drugs on the wards.

Processes: There are a number of strengths in medicines management processes although there are issues associated with transfer of information, variations across sites, supporting patients' compliance needs and discharge processes.

- There are safety risks and inefficiencies associated with poor information transfer between primary and secondary care.
- The timeliness of medicines reconciliation was good at Ysbyty Glan Clwyd and the rate of comprehensive medication reviews is higher than the Welsh average. All patients sampled at the Health Board had standard drug charts and had their allergy status recorded.

Processes: There are a number of strengths in medicines management processes although there are issues associated with transfer of information, variations across sites, supporting patients' compliance needs and discharge processes.

- The Health Board's formulary processes are generally in line with the rest of Wales although more needs to be done to make prescribing guidance available to non-medical prescribers and make the British National Formulary available electronically to doctors.
- In common with the rest of Wales, electronic prescribing is not in place on the Health Board's wards.
- The Health Board has invested in non-medical prescribers and has the required policies in place but it now needs to ensure the people with these skills are used in the right places to meet demand.
- The Health Board has taken direct action in response to **Trusted to Care** and we found there were comparatively few occurrences where it was not clear if a dose had been omitted or not.
- The Health Board needs to do more to assess patients' compliance needs, support patients to take their medicines properly and understand the reasons for the variation in utilisation across its helplines.
- Electronic discharge summaries, estimated date of discharge and discharge medication reviews are used less in the Health Board than average.
- Improvements have been made to the way the Health Board uses antimicrobial medicines although few wards are complying with the antimicrobial stewardship guidelines.

Monitoring: Rates of medication-related admissions and safety interventions are comparatively high. Learning could be more effective through increased clinical engagement and there is scope to strengthen performance monitoring

- There is scope to strengthen performance reporting through benchmarking and more detailed reporting to the Board.
- The recorded rate of medication-related admissions was higher than the Wales average and the rate of pharmacy team safety interventions was the highest of all health boards. Clinical engagement with the local Safer Medicines Groups needs to improve and there is mixed evidence about the effectiveness of learning processes.

Recommendations

R1 **Corporate arrangements**: In relation to Part 1 of the report, the Health Board should:

a. Translate the clear direction which has been developed through effective consultation into a formal strategy for medicines management, which clearly outlines measures of success.

b. Take steps to ensure that Pharmacy and Medicines Management is engaged in senior decision making forums, as well as ensuring that additional pharmacy working hours are targeted to the areas of Health Board priority.

c. Ensure individual patient funding request panels have two lay members and carry out further work to understand why the number of funding applications is so comparatively high.

R2 **Workforce**: In relation to Part 2 of the report, the Health Board should:

a. Develop a plan to ensure adequate succession planning for the Pharmacy and Medicines Management CPG.

b. Hold workshops with pharmacists, nurses and doctors to explore views expressed in our survey that the pharmacy team priority should be to improve discharge processes and that the most common cause of discharge delay is due to waiting for prescriptions to be written.

c. Develop a fully funded plan to strengthen medicines management training for junior doctors building on good practice at Ysbyty Gwynedd.

R3 **Facilities**: In relation to Part 3 of the report, the Health Board should:

a. Implement a regular audit programme of the preparation of injectable medicines on the wards.

b. Minimise the current safety risks associated with storage of intravenous fluids at ward level by ensuring where possible that fluids are secured in a locked room or cupboard.

c. Assure itself that any significant issues highlighted in the forthcoming review of YGC's aseptic unit are addressed as a matter of urgency.

R4 **Processes**: In relation to Part 4 of the report, the Health Board should:

a. Set out a clear timescale and funding plan for implementing inpatient electronic prescribing, electronic discharge and rolling out access to the Individual Health Record.

b. Improve utilisation of self-adminstration by increasing the number of wards with a procedure in place.

c. Review its Discharge Medicines Review (DMR) process to ensure its comparative use of DMRs is appropriate to local need.

d. Learn from the national work on Prudent Prescribing to develop an action plan to increase pharmacy's focus on identifying patients' compliance needs, educating/counselling patients, improving medicines information and supporting patients to take their medicines properly.

R5 **Monitoring**: In relation to Part 5 of the report, the Health Board should:

a. Develop a broader range of performance indicators to provide more information on performance against the priorities for medicines management.

b. Improve learning mechanisms to staff following medicines incident reporting to ensure that lessons are learnt and staff can see actions have been taken.

c. Consider whether more pharmacy resources should be diverted to addressing root causes and stopping errors and near misses to address the comparatively high pharmacy safety intervention rate.

Part 1

Corporate arrangements for medicines management

Leadership of medicines management is good but the absence of a formal strategy and organisational barriers limit engagement from the wider Health Board

Leadership and accountability structures

The Clinical Programme Group has good leadership and clinical engagement but the future arrangements are undecided and pharmacy is not represented on the boards of other Clinical Programme Groups

13. Effective leadership and clear lines of accountability are vital components of any healthcare service. Medicines management is slightly complicated in that it encompasses services and processes spanning pharmacy, nursing and medical staff. Nevertheless, it is still important that there are clear senior accountabilities and structures.

14. Currently the Health Board is divided into 11 Clinical Programme Groups (CPGs), each responsible for delivering individual services. Responsibility for primary and secondary pharmacy services sits within the Pharmacy and Medicines Management CPG which is led by a Chief of Staff who is professionally and managerially responsible for hospital pharmacy staff. The Director of Nursing has executive accountability for pharmacy and medicines management issues across the Health Board.

15. Within the Pharmacy and Medicines Management CPG there are two associate Chiefs of Staff, one responsible for nursing and the other operations. There are also three Clinical Director posts, one of which is a Chief of Staff.

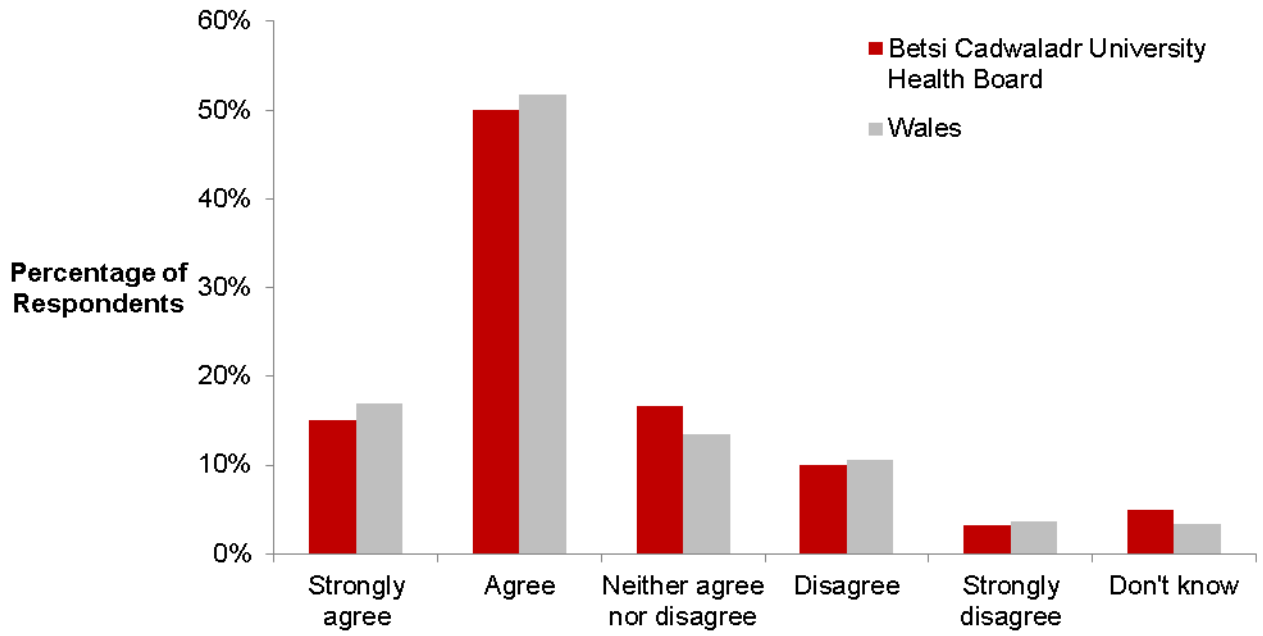
16. The CPGs each have their own board, chaired by the Chief of Staff. The Pharmacy and Medicines Management CPG board receives information from sub committees within it, including Quality and Safety, Finance and Performance, and Drugs and Therapeutics. This model ensures that clinical leadership is in place at senior levels.

17. Reviews of governance arrangements by the Wales Audit Office in partnership with Healthcare Inspection Wales have identified issues with the effectiveness of CPG arrangements, and the Health Board is currently in transition to a new area-based structure with appointments being made. Currently, the future arrangements for Pharmacy and Medicines Management CPG are still being developed.

18. In our joint review one of the identified weaknesses was the lack of integration across the CPGs. There remains a lack of pharmacy and medicines management representation at other CPG boards, which reduces their ability to influence CPG prescribing behaviours. One CPG which works well is in relation to Cancer which has pharmacy representation on the Board. This good practice needs to be recognised.

19. The **Professional Standards for Hospital Pharmacy Services**[10] (the Standards) state that the pharmacy service should have clear lines of professional and organisational responsibility. Exhibit 2 shows that in our survey across Wales, 69 per cent of pharmacy staff agreed or strongly agreed with the statement 'There are clear lines of accountability in the pharmacy team'. The equivalent figure in the Health Board was similar at 65 per cent.

Exhibit 2: Pharmacy staff at the Health Board generally agreed with the statement 'There are clear lines of accountability in the pharmacy team'



Source: Wales Audit Office Survey of Pharmacy Staff

20. The Standards also state that health bodies should have a medicines management group (MMG) as a focal point for the development of medicines policy, procedures and guidance. Our primary care prescribing report[11] said there was clear professional and managerial accountability within the CPG, with supporting committees in place to monitor finance and performance as well as quality and safety. Clinical representation at these groups is positive. However, a number of supporting sub committees are struggling with representation from medical staff, these include the antimicrobial stewardship committee, safer medicines groups and the safer patients groups. We were also told in interviews that challenges remain in ensuring the decisions of the Pharmacy and Medicines Management CPG are implemented by prescribers and with CPGs identifying potential cost saving areas.

21. The MMG should be multidisciplinary to reflect the fact that medicines management is the responsibility of a number of clinical professional groupings. Nursing staff make up eight per cent of the Corporate MMG's membership (compared with an average of nine per cent across Wales) and medical staff make up 44 per cent of the membership (compared with 46 per cent across Wales).

[10] Royal Pharmaceutical Society, **Professional Standards for Hospital Pharmacy Services**, July 2012

[11] Wales Audit Office, **Primary Care Prescribing**: Betsi Cadwaladr University Health Board, March 2014

Strategy for medicines management

The Health Board has a clear direction for medicines management but there is not yet a formal strategy

22. The Health Board should have a clear strategic vision for medicines management. Our primary care prescribing report said the Health Board had made limited progress in developing a long-term strategic approach to primary care prescribing.

23. The Pharmacy and Medicines Management CPG is currently developing its operational plans as part of the arrangements put in place by the newly appointed Chief Operating Officer. All CPGs are compiling information to inform the Health Board's operational plans around key areas such as strategic vision, demand, capacity as well as service transformation and workforce. These plans will then be approved and monitored. This will form the strategy for the Pharmacy and Medicines Management CPG.

24. There is clarity around the themes which the Pharmacy and Medicines Management CPG will be focusing on, these are: prevention, stabilising chronic conditions, improving information sharing and releasing clinical capacity. Presentations of these themes have been given to senior leaders within the Health Board, and are aligned with the aims of the Health Board's three-year plans. These are across both primary and secondary care sectors. These themes have been developed following consultation events with pharmacy and medicines management staff and other key stakeholders.

25. We surveyed pharmacy staff for their views on the strategy. The results showed that 26 per cent of pharmacy staff agreed or strongly agreed that they had been consulted and able to contribute to the strategy, compared to 30 per cent for Wales. The survey also showed that 62 per cent of pharmacy staff agreed or strongly agreed that 'the Health Board has an effective strategy for medicines management', compared to 66 per cent for Wales.

Profile and influence of pharmacy within the wider health board

In common with other health boards, the pharmacy team has limited formal enagagement involvement in senior decision-making forums

26. If the pharmacy team is to have sufficient profile and influence within the Health Board, it should have adequate representation at the Health Board's senior decision-making forums. We found that Cwm Taf was the only health board where pharmacy was represented on the most senior committee responsible for quality and safety. None of the health boards' pharmacy teams were represented on the most senior committee responsible for clinical governance or risk management.

27. The pharmacy team should also be able to influence the design of services that involve medicines. This is because when new consultant posts, clinics and services are introduced, this inevitably impacts on pharmacy service delivery. Across Wales we found that pharmacy teams have only limited involvement in service changes. The Health Board's pharmacy team has no involvement in decisions to introduce new consultants and only ad hoc involvement in decisions to introduce new clinics or services. The Health Board's self-assessment against the Standards suggests that when the pharmacy team is involved in such discussions it is not necessarily soon enough to influence change.

Financial management of medicines management

There is regular scrutiny of financial information but savings plans were ambitious and are limited to primary care

28. The Pharmacy and Medicines Management CPG reviews and forecasts prescribing expenditure on a monthly basis. This includes analysis of expenditure against the previous financial year as a direct measure of performance against historical positions and regular reviews of prescribing in areas of high growth. The Pharmacy and Medicines Management CPG board is held to account for expenditure and performance through monthly meetings with the Chief Operating Officer and Director of Finance. Issues are highlighted on an exception basis to the Board.

29. Although the Pharmacy and Medicines Management CPG is currently not delivering against its expected savings target, they have achieved the highest level of savings of any CPG within the Health Board. The target of £7.9 million was seen as ambitious and there was no consultation on this target before it was set. At the time of the review delivery at month 11 was £3.8 million, with an expected year-end delivery of £5.6 million, the increase in prescribing growth had been absorbed by the CPG. The Health Board is currently pursuing savings through a number of schemes, however, these schemes all focus on internal aspects such as procurement of Diabetic Reagent Strips, Staff Travel Cost reduction or with the community aspects delivering the savings. There is little mention of secondary care schemes or schemes linked to prudent healthcare or revised treatment pathways. This highlights the lack of engagement with other CPGs, and their lack of engagement in identifying potential savings within their areas. At present the savings plans do not yet appear ambitious enough to tackle the wider agenda.

30. In response to our survey, 41 per cent of pharmacy staff agreed or strongly agreed with the statement 'Financial savings made in pharmacy services are not impacting on patient outcomes' compared with 38 per cent across Wales. Whilst this reflects only the perception of a sample of staff, it may suggest that the Health Board should reflect on whether its pursuit of savings is impacting negatively on patient outcomes.

Individual patient funding requests

The Health Board appears to be managing individual patient funding requests in a different way to the rest of Wales, but a high percentage of applications do receive the requested funding without the need for a full IPFR panel

31. Individual patient funding requests (IPFRs) are usually requests from clinicians who want health board approval to use medicines that are not normally funded by the NHS. Health boards need robust processes and effective IPFR panels to ensure appropriate decision-making regarding these requests. An all-Wales report from April 2014 recommended that the panels that handle IPFR requests should have at least two lay members, and applications should be screened and signed by a clinical lead or head of department in advance of meetings.[12] At the Health Board, the IPFR panel does not have two lay members, but all IPFR applications are screened before the panel sits, and all applications are signed off by a clinical lead or head of department.

[12] National IPFR Review Group, **Review of the individual patient funding request process**, April 2014

32. During 2013-14, IPFR panels across Wales each considered an average of 60 applications regarding medicines. Betsi Cadwaladr has been discounted from the Wales average because the majority of applications at BCU are not managed through the IPFR panel.The Health Board identified 259 IPFR applications in this year, but informed us that only eight had passed through the panel. However, 212 (81 per cent) of these applications were approved by the Drugs and Theraputics Committee without needing an IPFR panel review. The Health Board has an IPFR flowchart which details the criteria upon which every IPFR application is assessed. The Health Board is confident that its IPFR decisions are well considered, and feels that if all appplications went to a full IPFR panel it would lead to delays and poor use of staff resources. The Health Board may wish to consider why applications for IPFR are so high, and there may be scope to better communicate with clincians upon formulary rationale.

33. Arrangements for managing individual patient funding requests in Betsi Cadwaladr differ from other Health Boards. Requests for drugs currently not on the National Institute of Clinical Excellent (NICE) or the All Wales Medicines Strategy Group (AWMSG) lists are reviewed by an 'executive committee' of the Drugs and Therapeutics Committee. This group has representation from clinicians, pharmacists, CPG representatives and Associate Medical Directors. The group makes a decision on the application based on a review of evidence. Only if this group cannot reach a decision are requests placed before an IPFR panel. The results of all decisions are noted at the Drugs and Therapeutics Committee.

34. Through interviews Health Board staff feel they are adhering to the guidelines in place, but considering the difference with other health boards' processes the Health Board needs to assure itself that it is complying with the spirit of the guidance. Otherwise the Health Board is potentially at risk should a dispute arise.

Part 2

The medicines management workforce

Pharmacy appears well resourced and respected by colleagues with a strong commitment to nurse training but there are differing arrangements across sites and some training needs to be improved

Staff numbers and skill mix

Pharmacy services appear comparatively well resourced although the overall staffing profile and the perceptions of high workload are similar to the rest of Wales

35. Pharmacy teams should have the right skill mix, capability and capacity to manage patients' medicines effectively as well as develop and provide broader pharmacy services. Health boards carried out a resource mapping exercise of their own pharmacy teams during late 2014. Exhibit 3 highlights some of the staffing indicators from that exercise and suggests that the Health Board's staffing costs per hour are higher than across Wales, but this is a reflection of a larger pharmacy team at the Health Board and the three-site model. Additionally, other CPGs have invested in pharmacy staff in order to deliver efficiencies such as pharmacy-led pre-operative assessment clinics which are resulting in significantly fewer cancellations for planned surgery. There are also three WTE externally funded pharmacists who undertake limited clinical duties. The Health Board's ratio of pharmacists to technicians is lower than average. Staff costs standardised against the level of inpatient activity are 31 per cent higher than the Wales average, although care must be taken reading these figures at face value considering some of the issues above and the integrated nature of some staff who are working between both primary and secondary care sectors[13].

[13] Staffing levels and bed days data reflect acute hospital sites within the Health Board.

Exhibit 3: The Health Board's pharmacy team is the largest in Wales with staffing levels and costs high relative to the level of inpatient activity

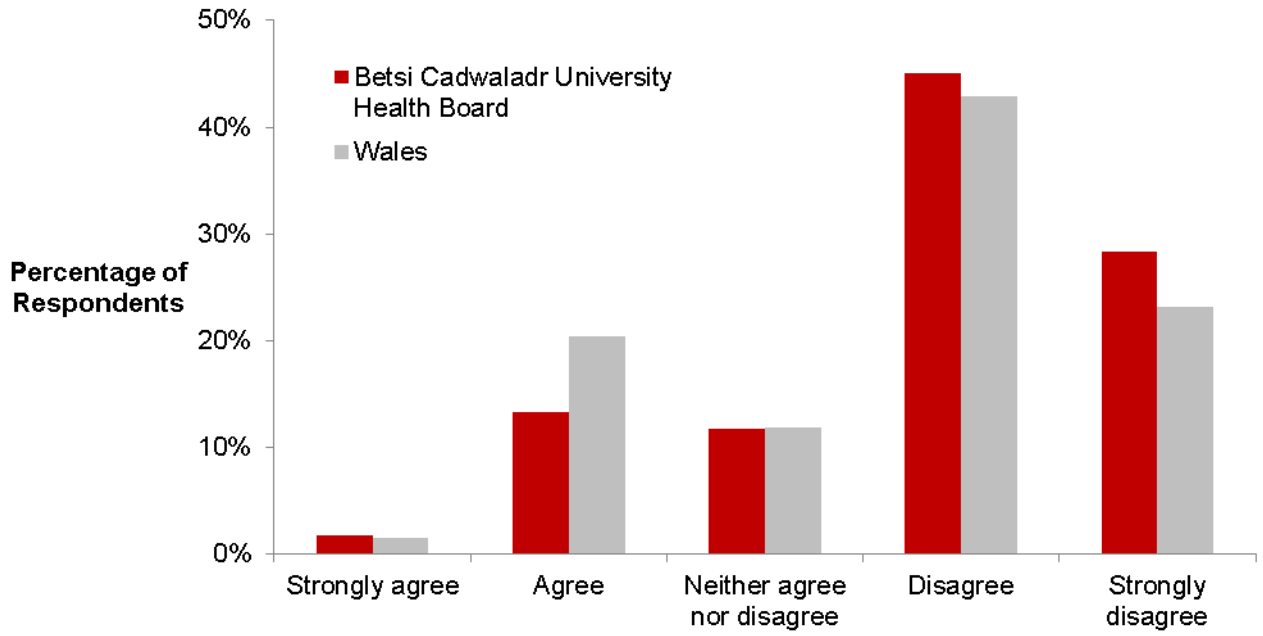
		Wales average	Betsi Cadwaladr
Staff numbers and skill mix	Total pharmacists and technicians in post (whole-time equivalent (WTE))	148	223
	Ratio of pharmacists to technicians	51:49	48:52
	Pharmacists and technicians (WTE) per 100,000 occupied bed days	37	48
Staffing costs[14]	Average cost per WTE: Pharmacist	£63,600	£64,600
	Average cost per WTE: Technician	£35,900	£35,700
	Pharmacist and technician: cost per hour	£3,800	£5,800
	Pharmacist and technician: cost per occupied bed day	£18.68	£24.38

Source: Resource Mapping Exercise carried out by pharmacy teams across Wales (2014), StatsWales 'NHS beds by organisation and site' (2013-14). These data include only acute-based staff and our analysis excludes the time/resource dedicated to primary care and community pharmacy activities.

36. Our work across Wales highlighted general perceptions of high workload and too few staff. In the Health Board, 65 per cent of pharmacy staff disagreed or strongly disagreed with the statement 'There are enough pharmacy staff at this organisation for me to do my job properly'. This compares with 60 per cent across Wales. Exhibit 4 (on the next page) shows the extent to which staff agreed with the statement 'I have time to carry out all of my work'.

[14] Gross costs are based on the mid-point of each pay band and include rota, superannuation and national insurance allowances. Hourly cost is based on calculating the total WTE of pharmacists and technicians in each pay band, then multiplying these figures by the gross cost per hour (assuming 37.5 hours per week for 52 weeks of the year) at the mid-point of each band, then summing the totals across all bands.

Exhibit 4: Pharmacy staff generally disagreed with the statement 'I have time to carry out all of my work' and they disagreed slightly more than across Wales



Source: Wales Audit Office Survey of Pharmacy Staff

37. The Health Board's self-assessment against the *Professional Standards for Hospital Pharmacy Services* (the Standards) recognises that human resources to deliver pharmacy services are not the same across the three hospitals, but there are plans in place for reviewing, developing and funding a pharmacist workforce that optimises skill mix. The current arrangements for commissioning of pharmacy services by CPGs exacerbates the inconsistencies as some CPGs have invested more in pharmacy support, for example, Cancer CPG, where Mental Health services have historically not commissioned a high level of pharmacy support.

Training and development

38. There is a strong commitment to nurse training within the Health Board, however, junior doctor and pharmacy staff training at Ysbty Glan Clwyd and Wrexham Maelor could be improved.In our survey, 53 per cent of pharmacy staff in the Health Board agreed or strongly agreed with the statement 'I am getting sufficient training, learning and development'. This compared with 51 per cent across Wales as a whole. Data from the resource mapping exercise shows that pharmacy staff in the Health Board spent, on average, seven per cent of their time on receiving or delivering training, education and personal development over the past year. This compares with nine per cent across Wales[15].

[15] Resource Mapping activity data relating to Pharmacist and Technician staff groups across primary and secondary care.

39. The Quality Delivery Plan[16] for the NHS in Wales said that health boards should plan to train 25 per cent of their staff in quality improvement methodologies by the end of March 2014. In the Health Board, 28 per cent of secondary care pharmacy staff are trained to at least bronze level in the Improving Quality Together methodology led by 1000 Lives Plus. At other health boards this figure ranged from 0.7 per cent to 67 per cent. Across Wales, the total proportion of secondary care pharmacy staff trained to at least bronze level is 24 per cent.

40. Training for nursing and medical staff can be a key success factor in contributing to good, multidisciplinary engagement in medicines management. The Standards state that pharmacy should support induction and ongoing training of clinical staff. Across Wales, health boards fund an average of 0.7 WTE pharmacy staff to deliver training to medical staff. The Health Board has three WTE staff funded for this role, who are funded by service increment for training (SIFT) monies.

41. Due to their relatively limited experience, junior medical staff are one staff group that is in particular need of training in medicines management. At the Health Board, pharmacy staff are involved in junior doctor training. However, the pharmacy session on the Health Board induction is relatively short, which means that it is difficult to communicate all the information they would like to. Junior doctors at Ysbty Gwynedd are in receipt of additional training in addition to the formal induction process, athough this is not replicated at the other hospitals. Positively, there has been linkages made to antimicrobial prescribing for junior doctors and the quality element of their post graduate training, which supports the compliance with the Health Board antimicrobial prescribing strategy.

42. In our survey, 37 per cent of doctors and 41 per cent of nurses agreed or strongly agreed with the statement 'It is easy for me to keep my medicines management skills up to date'. This compared with 35 per cent of doctors and 47 per cent of nurses across Wales.

43. In our survey, 20 per cent of pharmacy staff, 25 per cent of doctors and 31 per cent of nurses agreed or strongly agreed with the statement 'The Health Board has good controls in place to monitor the performance of medical prescribers'. This compared with 23 per cent of pharmacy staff, 29 per cent of doctors and 32 per cent of nurses across Wales.

44. Support for nurses relating to medicines administration is strong. Competency-based training framework in place for nurses is valued and well utilised at ward level. Staff were very complimentary of the support from the medicines management nurses in place within pharmacy, drawing on them for support following incidents and near misses. They are a regular presence at the ward, providing support, guidance and training. The Health Board has a series of mechanisms in place to ensure that registered nurses receive ongoing training and development in medicines management:

- Robust competency framework is in place developed by the pharmacy team to support prescribing.
- There are quarterly non-medical prescribing local forums, and all registered nurses are required to undertake a second independent check and witnessed administration of medicines competency.
- Newly qualified staff, returning staff and those with identified development needs are assessed against medicines management competencies.
- Training and updates are arranged on the use of Patient Group Direction, the supply of over-labelled medicines and intravenous additives.
- Ysbyty Glan Clwyd hospital employs mandatory 'back to basics' medicines administration training for medical and surgical ward staff.

[16] Welsh Government, **Achieving Excellence: the Quality Delivery Plan for the NHS in Wales 2012-2016**, 2012

- Where capability issues have been identified, medicines management nurses work alongside ward sisters and matrons to implement management plans and competency assessments.
- Datix incident reporting is reviewed to develop joint action plans.
- Insulin e-learning is employed to support a key standard for all medicines management nurses. Compliance with insulin standards is monitored by most CPGs.

Clinical pharmacy services

There are good relationships on the wards although the model of clinical services varies across sites

45. Clinical pharmacy describes the activity of pharmacy teams in ward and clinic settings. This activity involves direct involvement with patients, giving advice to other healthcare professionals and playing a full part of the multidisciplinary team approach to managing people's medicines. The Standards say that pharmacists should be 'integrated into clinical teams…and provide safe and appropriate clinical care directly to patients'.

46. The resource mapping exercise carried out across Wales in late 2014 showed that the Health Board's pharmacists and technicians typically spent 29 per cent of their time directly supporting wards and clinics, which is less than the average of 32 per cent across Wales[17].

47. Exhibit 5 summarises some of the key data we collected in our clinical pharmacy review that covered three wards at each of the acute hospitals (details of these wards can be found in Appendix 1). The exhibit also shows data from our staff surveys and wider audit, relating to relationships and clinical pharmacy services on the wards. There are significant variations in the number of named technicians across the three sites, with Ysbyty Glan Clwyd having the most at 74 per cent, Ysbyty Bangor 42 per cent. Wrexham Maelor has moved to a team-based technican approach and therefore the amount of named technicians is the lowest at 14 per cent.

Exhibit 5: Relationships appear good, the proportion of named technicians is low and there is scope for pharmacy to have more influence over prescribers

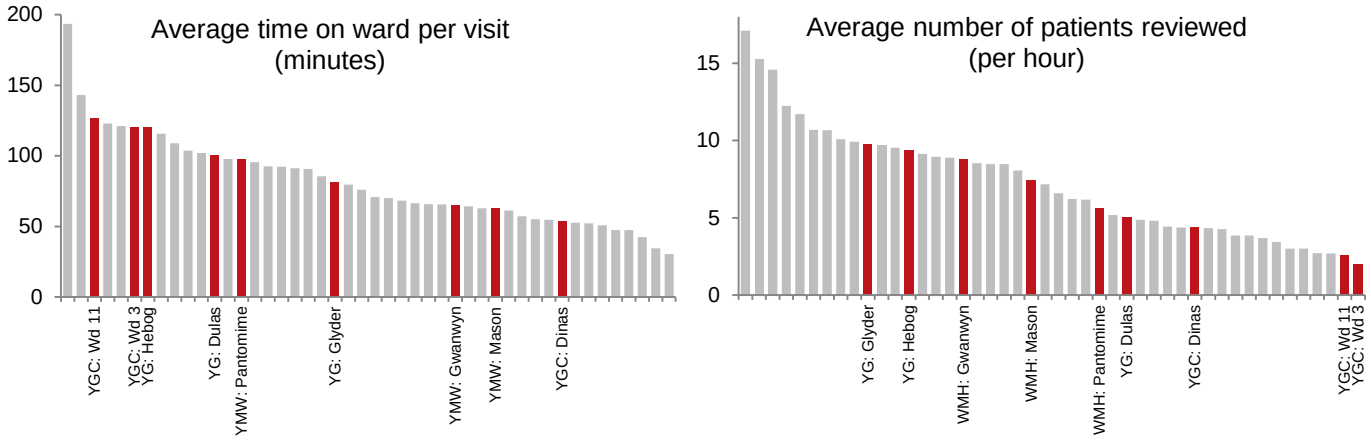
Indicator	The Health Board	Wales	Observations
Percentage of pharmacy staff saying there were good or excellent relationships with medical staff	82%	78%	Good relationships between pharmacy, medical staff and nursing staff are essential for an effective multi-disciplinary approach to medicines management. 80 per cent of medical staff agreed that relationships with pharmacy were good or excellent.
Percentage of pharmacy staff saying there were good or excellent relationships with nursing staff	88%	88%	Eighty-five per cent of nursing staff shared this view. The positive relationships were mentioned to us several times during our hospital visits.

[17] Resource Mapping activity data relating to Pharmacist and Technician staff groups across primary and secondary care.

Indicator	The Health Board	Wales	Observations
Percentage of wards with a named pharmacist	87%	91%	Allocating named pharmacists and technicians to specific wards can assist with working relationships. This profile for technicians varies considerably between hospital sites in the Health Board. With Glan Clwyd having the most named pharmacists and technicians and Wrexham Maelor having the lowest, only 14 per cent of wards had a named technician.
Percentage of wards with a named technician	38%	50%	
Percentage of wards with no visiting service from pharmacy	16%	11%	If there is no routine visiting service to the ward this may suggest that better links need to be forged between pharmacy and the ward teams.
Percentage of wards with a seven-day visiting service	5%	5%	
Percentage of of pharmacy team recommendations that led to changes	64%	79%	We looked at recommendations made by pharmacy teams about the type and dosage of drug and we calculated the proportion of these recommendations that were followed. If pharmacy staff are unable to influence prescribers this suggests relationships should be strengthened.
Percentage of pharmacy staff that agreed or strongly agreed that they are able to influence the prescribing behaviour of doctors and nurses	70%	68%	

48. Exhibit 6 shows that during our clinical pharmacy review, the average time that pharmacy teams spent on the ward per visit was comparatively high on Ysbyty Glan Clwyd wards 3 and 11. The exhibit also shows that the average number of patients reviewed per hour was particularly low on these two wards. Interpretation of these findings may be influenced by factors such as pharmacy visiting practice or complexity of cases. The Health Board may wish to carry out further analysis to interpret their submitted data in light of local knowledge.

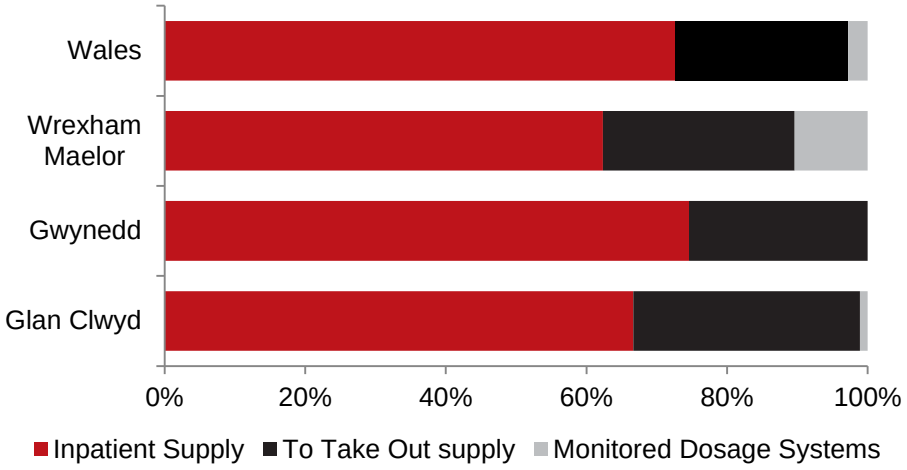
Exhibit 6: On most of the wards we sampled in the Health Board, visits from pharmacy teams were longer than average although fewer patients were reviewed per hour



Source: Wales Audit Office Clinical Pharmacy Review

49. Exhibit 7 shows details of the pharmacy teams' workload, during our sampled ward visits, in relation to the supply of medicines. We recorded three types of supply: supply of medicines to inpatients, supply of 'to take out' medicines when patients are due to be discharged, and supply of monitored dosage systems, which are multi-compartment boxes to help patients remember which medicines to take. Wrexham Maelor dispenses the highest number of monitored dosage systems which can cause additional workloads within pharmacy.

Exhibit 7: Pharmacy teams at Wrexham are spending comparatively more time supplying monitored dosage systems



Source: Wales Audit Office Clinical Pharmacy Review (ward visit)

50. Ward rounds are a route by which pharmacy staff can work closely with the rest of the multidisciplinary team to contribute to patient care. Information collected as part of the audit indicates that there is scope to review the extent to which pharmacy staff integrate their visits to wards with ward rounds performed by doctors. Our results from across Wales suggest there is scope for pharmacy teams to be more frequently involved in ward rounds as just one per cent of the visits recorded in our clinical pharmacy review were as part of ward rounds. In the Health Board three of the pharmacy team's 70 visits to the wards were as part of ward rounds (four per cent compared with one per cent across Wales). Interestingly, our survey highlighted differing views about the statement 'Clinical pharmacy staff are regularly involved in multidisciplinary ward rounds'. Fifty two per cent of pharmacy staff agreed or strongly agreed, as did 40 per cent of doctors and 32 per cent of nurses.

51. Exhibit 8 shows the pharmacy staff's views on how their team could be more effective and compares their opinions with those of doctors. The Health Board may want to carry out further work to understand the reasons for the differences of opinion expressed by staff.

Exhibit 8: Staff views on the scope for making the pharmacy team more effective

Priority	Views of pharmacy staff	Views of doctors	Views of nurses
1 (Highest)	Improve the continuity of pharmacy staff who support the ward/patients	Improve/put in place processes to support discharge	Increase the amount of time spent on the wards
2	Improve/put in place processes to support discharge	Improve the continuity of pharmacy staff who support the ward/patient	Improve/put in place processes to support discharge
3	Increase the amount of time spent on the wards	Increase the amount of time spent on the wards	Improve the continuity of pharmacy staff who support the ward/patient
4	Take part in post-take ward rounds	Take part in post-take ward rounds	Take part in post-take ward rounds
5	Change the timing of the routine visits to wards	Improve/put in place an on-call service	Improve/put in place an on-call service
6	Improve/put in place an on-call service	Change the timing of the routine visits to wards	Change the timing of the routine visits to wards

Source: Wales Audit Office Surveys of Pharmacy Staff and Medical Staff

Opening hours and access to the pharmacy workforce

Pharmacy services are generally accessible and responsive but there needs to be a strategic decision about the approach both to extended pharmacy opening hours across the sites and other Health Board services

52. Pharmacy services should be accessible to healthcare staff at the times when they are most needed. The Royal Pharmaceutical Society has highlighted problems with the availability of pharmacy services outside normal working hours. The Society reports that limited availability of hospital pharmacy services, particularly at weekends, can result in more missed doses and prescription errors, a lack of medicines reconciliation and prolonged waits for discharge medication[18].

53. Exhibit 9 shows the Health Board's pharmacy service opening hours compared with the average across Wales. In addition to the hours shown in the table, the Health Board's pharmacy team is available on-call at all times, which is also the case at all other health boards in Wales.

[18] Royal Pharmaceutical Society, **Seven Day Services in Hospital Pharmacy: Giving patients the care they deserve**, 2014

Exhibit 9: Pharmacy service opening hours are slightly below the Wales average during weekdays but the Health Board offers more support at weekends

Hospital	Total no. of hours open to A&E/ outpatients		Total no. of hours open to provide clinical services to the wards		Total no. of hours where at least one member of Pharmacy staff is present on-site	
	Mon-Fri	Sat-Sun	Mon-Fri	Sat-Sun	Mon-Fri	Sat-Sun
Glan Clwyd	40	8	41	8	44	8
Wrexham Maelor	40	7	40	7	40	7
Gwynedd	40	16	40	8	40	16
Wales average	**42**	**5**	**43**	**4**	**43**	**6**

Source: Wales Audit Office Core Medicines Management Tool

54. Seven-day working is being discussed by the Pharmacy and Medicines Management CPG. Currently, opportunities to increase opening hours are taken, either by using seasonal monies or utilising overtime working. The adoption of additional opening hours varies across the Health Board, which could lead to inequity of service provision. Although seasonal pressure money is welcomed by the Pharmacy and Medicines Management CPG, the very nature of this being short-term funding means that permanent staff cannot be recruited. Through interviews there is still some concern that longer opening hours will just spread demand, and the teams are doing all they can to prioritise 'to take out' medicines (TTOs). Any increases in pharmacy opening hours will need to be supported by additional working hours within other CPGs, for instance, currently there is a weekend consultant led walkround with pharmacy support which is supporting timely discharge. Without additional services becoming online the extra pharmacy working hours will not have as much benefit, therefore all new working hours need to be introduced as part of a considered service improvement scheme. Exhibit 10 shows the results of our survey of medical and nursing staff in relation to the accessibility and responsiveness of pharmacy services.

Exhibit 10: Satisfaction with pharmacy accessibility and responsiveness is generally good although less so outside normal working hours

	The Health Board	Wales
'It is easy to contact the pharmacy team in normal working hours'		
Percentage of medical staff that agreed or strongly agreed	89%	85%
Percentage of nursing staff that agreed or strongly agreed	87%	91%
'It is easy to contact the pharmacy team outside normal working hours'		
Percentage of medical staff that agreed or strongly agreed	43%	30%
Percentage of nursing staff that agreed or strongly agreed	46%	52%
'The pharmacy team responds in reasonable timescales to my requests in normal working hours'		
Percentage of medical staff that agreed or strongly agreed	88%	81%
Percentage of nursing staff that agreed or strongly agreed	83%	83%
'The pharmacy team responds in reasonable timescales to my requests outside normal working hours'		
Percentage of medical staff that agreed or strongly agreed*	43%	29%
Percentage of nursing staff that agreed or strongly agreed	49%	51%

Source: Wales Audit Office Surveys of Medical and Nursing staff. * 28 per cent of medical staff said they did not know.

55. During our walkthroughs, nursing staff told us about generally good access to pharmacy, with support from the on-call pharmacists valued. Ward staff valued the support from pharmacy, and the support they receive and the speed with which they dispense TTOs to support effective discharge.

Part 3

Medicines management facilities

Pharmacy facilities comply with the vast majority of key requirements but there are weaknesses in the Ysbyty Glan Clwyd aseptic unit and issues remain with ward storage of medicines

Compliance with key requirements for pharmacy facilities

Pharmacy facilities comply with the vast majority of key requirements but the location of the Ysbyty Glan Clwyd pharmacy is not ideal

56. A Welsh Health Building Note[19] describes key requirements for the design, layout and facilities of hospital pharmacies. The table below shows the requirements in italics and shows whether the facilities at Wrexham Maelor (WM), Ysbyty Glan Clwyd (YGC) and Ysbyty Gwynedd (YG) comply (☑), partially comply (☐) or do not comply (☒).

Findings
Location
Is the pharmacy on the ground floor and accessible from the main corridors/circulation routes? ☑ WM: The pharmacy is on the ground floor on the main hospital corridor. ☒ YGC: The pharmacy is on the first floor, and some patients find difficult to locate and access (there is considerable building work at the moment exacerbating this issue). ☑ YG: The pharmacy is on the ground floor and is easy to find on the main hospital corridor.
Boundary security
Is entry to the pharmacy strictly controlled through the use of swipe cards or similar? ☑ WM, YGC and YG: Swipe card systems are in place. *Were steps taken to verify the auditor's identification upon arrival at the pharmacy?* ☑ WM, YGC and YG: The auditor knocked the door and was asked who they were. The auditor was not asked for identification.

[19] NHS Wales Shared Services Partnership, **Pharmacy and radiopharmacy facilities, Welsh Health Building Note WHBN 14-01**, 2014

Findings

Storage area and temperature

Were all items stored above the floor?

☑ WM: Storage is excellent; the store room for intravenous items was sizeable. Excellent facilities, clean and well organised.

☐ YGC: The team are working hard to manage with their limited storage, there were no obvious items stored on the floor. However, pharmacy staff told us that at times of seasonal pressures storage space can become scarce.

☑ YG: The storage areas were tidy, neat and well ordered. There were some items stored on the floor but these were stationery rather than drugs.

Are there good arrangements to regulate the temperature below 25 degrees, particularly in areas used to store bulk items?

☑ WM: All areas are monitored and climate controlled. If temperatures go out of range this prompts an audible alarm, a warning light and a computer monitor will identify the location of the issue. This is also being monitored by the North Wales Quality Assurance centre upstairs.

☑ YGC: The systems are monitored by a computer system which can also be accessed by the North Wales Quality Assurance centre based at Wrexham Maelor. All areas are climate controlled.

☑ YG: Climate control is in place across the pharmacy, and there is monitoring of the temperatures.

Controlled drugs

Is there a separate, lockable and alarmed controlled drugs store?

☑ WM: There is a lockable, alarmed room. The access to this is only allowed to certain people through the control system. In the room there is also a digital security camera which records and backs up images.

☑ YGC: The controlled drugs are kept secure within the dispensing robot.

☑ YG: The controlled drugs are kept in secure metal cabinets, kept in a storeroom in the main security controlled area. All cupboards were locked when observed.

Fridges

Do all fridges in the pharmacy have an external temperature display? And were these displays showing readings of between two and eight degrees?

☑ WM, YGC and YG: All fridges have an external display. All were within range.

Is there constant monitoring of fridge temperatures with an automatic alert system (in hours and out of hours) when temperatures go out of range?

☑ WM: A computer system constantly monitors the fridge and room temperatures, with audible and visible alerts if there are any issues, the North Wales Quality Assurance centre would also be notified. Out of hours the remote system will contact switchboard and then the on call pharmacist will be notified.

☑ YGC and YG: There is a computer system in place, where radio controlled probes are inserted in each fridge. The temperatures are relayed to a monitoring point and an alarm sounds if the fridge temperatures go off. Out of hours the on call pharmacist will be contacted by swtichboard.

Are all fridges in the pharmacy lockable?

☑ WM, YGC and YG: All fridges at both pharmacies are lockable.

Findings

Emergency medicine store

Is there a specific store where medicines can be accessed when the pharmacy is not staffed?

☑ WM: Outside of the main pharmacy there is an emergency drugs store. This room is accessible when pharmacy is closed and contains a good supply of drugs. The robot can also supply drugs into this cupboard if required, which can be accessed out of hours by pharmacists. Access to the cupboard is by senior nurse or site manager overnight.

☑ YGC: There is an ED cupboard in the main pharmacy corridor. Access is via passcard and key which are held by the site manager. There is also a hatch for the robot drugs to be dispensed remotely by the pharmacist, and accessed by hospital staff. The store is replenished on a daily basis, seven days a week.

☑ YG: There is an ED cupboard in the corridor outside of the pharmacy. Access to this area is undertaken by the bleep/senior nurse or site manager. This can be accessed when the pharmacy is not staffed. Additionally, drugs can be supplied remotely by the pharmacy team via the robot which has a shute which delivers drugs into the cupboard for staff access.

Is there a clear system for recording which items have been taken from the emergency store?

☑ WM: Staff must complete a paper form for all drugs taken from the emergency drugs store. The form is then collated by pharmacy staff.

☑ YGC: A manual recording book is in place, and the staff check that any drugs are recorded in this.

☑ YG: Drugs taken from the cupboard are recorded in a manual folder. The pharmacy staff check this every day to ensure that details of where drugs have gone are completed and to ensure stock in the cupboard is maintained.

Dispensary

Does the dispensary have benches and worktops of a colour that contrasts with white medicine labels?

☑ WM: Worktops are grey.

☑ YGC: The worktops are grey.

☒ YG: The worktops are white (although staff say this is not an issue for them).

Does the dispensary have dedicated handwashing facilities?

☑ WM and YG: The dispensaries have dedicated handwashing facilities.

☒ YGC: There are no dedicated hand washing facilities in the dispensing area.

Source: Wales Audit Office observations of hospital pharmacies

Preparation of aseptics and injectable medicines

The aseptic unit at Ysbyty Glan Clwyd was given a high risk rating by external inspectors and in common with the rest of Wales the preparation of injectable medicines on the wards is not routinely audited

57. Aseptic facilities are sterile units used to prepare high risk medicines such as chemotherapy injections, intravenous feeds for premature babies and certain antibiotics. Such units are subject to inspection by the Medicines Healthcare Products Regulatory Agency (MHRA). Two MHRA reviews were undertaken in 2013, at Ysbyty Glan Clwyd and Wrexham Maelor. There were no major or critical issues at Wrexham Maelor, however, significant weaknesses were found at Ysbyty Glan Clwyd in relation to the pharmacy quality management system, weak aseptic practices as well as poor documentation. A follow-up review is due at Ysbyty Glan Clwyd within the next few months and the team are confident they have addressed the issues previously identified.

58. Aseptic units in Wales are also subject to inspection from the All Wales Quality Assurance Pharmacist. The Health Board had three inspections in 2011 across the three units: Wrexham Maelor was assessed as low risk but Ysbyty Glan Clwyd was high risk. As Ysbyty Gwynedd is not a licensed unit it is not issued with a score.

59. Some injectable medicines are prepared on the wards. These preparation processes should be subject to annual audits but across Wales we found that such audits are rarely carried out.[20] The Health Board confirmed that 36 of its 92 wards where intravenous medicines are prepared had a risk assessment in place, and that 36 wards had audited aseptic practices in the past year. Nursing staff at the wards visited were unaware that the risk assessments had taken place. Three other health boards were unable to provide this information, and a fourth stated that no risk assessments or audits had taken place.

Facilities for storing medicines on the wards

The Health Board has more automated vending machines than average although issues remain in relation to the storage of controlled drugs on the wards

60. The **Trusted to Care** spot checks highlighted issues across Wales regarding the safe and secure storage of medications on hospital wards. The spot checks showed that across the Health Board there were issues with the standards of the controlled drugs cupboards at ward level, with some subject to improvement notices from Healthcare Inspection Wales. The pharmacy department has undertaken an audit to assess the replacement need. This will require investment from estates. Issues were also found in relation to the need to review and replace drugs fridges at Ysbyty Glan Clwyd.

61. Our clinical pharmacy review found that 94 per cent of patients reviewed had a functioning, lockable cabinet, matching the average across Wales.

[20] National Patient Safety Agency, **Patient safety alert 20**, 28 March 2007

62. The introduction of automated vending machines to store and dispense medicines on the wards can improve security, audit trails and can release pharmacy and nursing staff time. At the Health Board, 24 per cent of wards have automated vending machines, compared with an eight per cent average across Wales. There is a move to introduce automated vending machines in newly refurbished wards, however, the Health Board requires funding for this. The funding is dependent on the availability of a successful capital bid. In addition, the new ward design at Ysbty Glan Clwyd has been specifically developed to support ward automation, if funding is not allocated to this there will be insufficient traditional ward cupboard space.

63. The **Trusted to Care** spot checks across Wales also revealed issues with the refrigeration of medicines on the wards. During our ward visits, staff at ward level informed us that regular monitoring of fridges is undertaken and we observed monitoring charts at ward level.

Part 4

Medicines management processes

There are a number of strengths in medicines management processes although there are issues associated with transfer of information, variations across sites, supporting patients' compliance needs and discharge processes

Admission information from GPs

There are safety risks and inefficiencies associated with poor information transfer between primary and secondary care

64. The interface between primary and secondary care is high-risk in relation to medicines management. When patients are admitted, good communication between the GP practice and the hospital can prevent errors and inaccuracies about people's medicines.

65. Exhibit 11 shows the pharmacy team's assessment of the quality of information provided by primary care to support admissions, which was carried out during the clinical pharmacy review. In the Health Board overall, the percentage of patients with no information was slightly lower than the rest of Wales although when patients did have information it was less likely to be comprehensive[21].

Exhibit 11: More than half of patients reviewed at Wrexham Maelor had no information from their GP and there was varied performance across sites

	No information	Limited information	Standard information	Comprehensive information
Ysbyty Glan Clwyd	0%	50%	0%	50%
Ysbyty Gwynedd	25%	31%	25%	19%
Wrexham Maelor	56%	0%	44%	0%
Betsi Cadwaladr	38%	18%	32%	12%
Wales average	**41%**	**18%**	**20%**	**22%**

Source: Wales Audit Office Clinical Pharmacy Review (patient log of 137 patients)

Note: The options were 'No information/could not find information in notes', 'Limited information: contained an incomplete drug history', 'Standard information: contained a complete drug history', Comprehensive information: contained a complete drug history including supporting clinical information and relevant test results.

[21] These data include only the patients reviewed in the clinical pharmacy review that were admitted via a GP, therefore Exhibit 11 includes data from 34 Betsi Cadwaladr patients and 362 patients from across Wales.

66. The Health Board does not have guidance for GPs to stipulate what information to provide when their patients are admitted. However, the Health Board does provide GPs with a standard pre-admission letter to hand to patients before their admission to hospital, reminding them to bring their medicines to hospital.

67. Problems with the transfer of medication information between primary and secondary care is a particular risk area for the Health Board. Senior staff acknowledged these risks during interviews and staff during our ward visits told us about the variable quality of information received from GPs. During interviews mental health wards were particularly concerned about the quality and speed of obtaining information on patient's medication especially out of hours and for emergency admissions.

68. In our survey, 48 per cent of pharmacy staff, 45 per cent of hospital doctors and 37 per cent of nurses in the Health Board agreed or strongly agreed with the statement that admission information for elective patients was sufficient. Across Wales the results were 26 per cent of pharmacy staff, 37 per cent of doctors and 40 per cent of nurses agreeing or strongly agreeing. For emergency patients, 65 per cent of hospital doctors, 74 per cent of pharmacy staff and 48 per cent of nurses disagreed or strongly disagreed with the statement that '…it is easy to access sufficient written/electronic information about patients'' existing medication'. Across Wales the figures were 61 per cent of doctors, 65 per cent of pharmacy staff and 47 per cent of nurses disagreeing or strongly disagreeing.

69. When patients arrive in hospital with limited information about their medicines, pharmacy teams often telephone GP surgeries to secure a patient's drug history. The Health Board's staff do not have access to the Individual Health Record (IHR) which is an electronic system that contains a summary of the information held by GPs about their patients, including information about their medicines. Staff commented that having access to this information would reduce the amount of time staff spend contacting GP surgeries to gain information and reduce time spent by pharmacists populating the electronic discharge system.

70. Evaluations carried out at Cardiff and Vale University Health Board suggest that the use of IHR saves an average of seven minutes of pharmacy time per patient reconciled. Using this estimated saving of seven minutes, if IHR had been used for half of the 76,331 emergency admissions at the Health Board in 2013-14, this could have saved approximately 4,500 hours of pharmacy time, which equates to 2.5 WTE pharmacy staff [22]. The Health Board currently has no access to the IHR and there are no plans in place to pilot this. Given the potentially significant time savings and safety improvements possible through IHR, both on the wards and in general practices, it is important that the roll out of IHR is expedited.

[22] This calculation compares the situation where IHR is used for 50 per cent of emergency admissions, with the situation where IHR is used for no emergency admissions. It also assumes one WTE works 37.5 hours per week, 47 weeks per year.

Medicines reconciliation and review in hospital

The timeliness of medicines reconciliation was good at Ysbyty Glan Clwyd and the rates of comprehensive medication reviews are higher than the Welsh average

71. Medicines reconciliation is a checking process, often led by a pharmacist, to ensure that when a patient moves in or out of hospital, they are followed by accurate and complete medication information. The Standards state that within 24 hours of admission, patients' medicines should be reviewed or 'reconciled' to avoid unintentional changes to their medication[23]. Of the 136 patients reviewed as part of our clinical pharmacy review where a medicines reconciliation date had been recorded, 83 (61 per cent) had received a medicines review within one day of their admission, compared with a Wales average of 64 per cent[24]. At Ysbyty Gwynedd and Wrexham Maelor, figures were below 60 per cent, but at Ysbyty Glan Clwyd 83 per cent of patients received their review within one day. Medicines reconciliation performance is monitored monthly through the Health Board key performance indicators.

72. During their hospital stay, patients should have their medicines reviewed regularly. In response to our survey, 62 per cent of pharmacy staff, 76 per cent of doctors and 65 per cent of nurses agreed or strongly agreed with the statement 'Patients receive medication reviews (by any member of the multidisciplinary team) frequently during their hospital stay'. Across Wales, 65 per cent of pharmacy staff, 67 per cent of doctors and 67 per cent of nurses agreed or strongly agreed with the statement. Our clinical pharmacy review showed that these medication reviews are almost exclusively carried out by pharmacists, with only six per cent across Wales being carried out by doctors. Exhibit 12 summarises the key data on medication reviews from our clinical pharmacy review.

Exhibit 12: The comprehensiveness of medication reviews exceeds the Wales average at each hospital site. Fewer patients at the Health Board were found to have compliance issues compared with patients across Wales

	Ysbyty Glan Clwyd	Ysbyty Gwynedd	Wrexham Maelor	Wales
Percentage of patients receiving a comprehensive medication review	72%	59%	84%	44%
Percentage of reviews where a compliance or drug issue was found	11%	16%	5%	20%

Source: Wales Audit Office Clinical Pharmacy Review (patient log of 137 patients)

[23] National Prescribing Centre, **Medicines reconciliation: A guide to implementation**

[24] Figure represents patients whose medicines review date was either the same day as admission or the following day.

Medicines administration charts

All patients sampled at the Health Board had standard drug charts and had their allergy status recorded

73. The medicines management process in hospital relies heavily on safe and effective record keeping. Drug charts should be used by staff to record what medicines patients have been prescribed, the required dosage and to record clearly the times when doses were given. A standard drug chart has been developed in Wales, called the Inpatient Medication Administration Record and approved by the Royal College of Physicians. A separate chart called the Long Stay Medication Administration Record should be used for patients who remain in hospital for long periods. Our drug chart review in the Health Board found that 83 per cent of patients had the inpatient standard form and 17 per cent had the Long Stay Inpatient Medication Administration Record. In Wales as a whole, 93.3 per cent of patients had the standard form, 6.4 per cent had the Long Stay Inpatient Medication Administration Record and 0.3 per cent had a non-standard form of chart. One of our wards sampled at Wrexham Maelor was a mental health ward where patients were automatically placed on a Long Stay Inpatient Medication Administration Record.

74. Whatever type of drug chart is in use, there should be a record of the patient's allergies and sensitivities to medications. Allergic reactions are a serious risk to patient safety and a common source of drug error. Our drug chart review in the Health Board found that all patients had their allergy status recorded on the drug chart. This compares with 98 per cent across Wales. Our clinical pharmacy review identified 13 occasions where pharmacy teams updated a patient's allergy status, equivalent to 2.5 amendments for every 100 patients reviewed. Across Wales the average was five amendments for every 100 patients reviewed.

Formulary processes

The Health Board's formulary processes are generally in line with the rest of Wales although more needs to be done to make prescribing guidance available to non-medical prescribers and make the British National Formulary available electronically to doctors

75. A formulary is a health board's preferred list of medicines that staff can use as a reference document to ensure safe and cost-effective prescribing. The Health Board has an online, organisation-wide formulary that is available on all hospital computers. Nevertheless, the Health Board has difficulties monitoring compliance with the formulary due to the lack of electronic prescribing in secondary care. This means a manual exercise is required to monitor prescribing and formulary compliance.

76. Our primary care prescribing report identified issues with the impact of secondary care prescribing on primary care, which included non-compliance with the formulary. In response to the survey for this audit, 44 per cent of medical staff and 67 per cent of nurses said they agreed or strongly agreed that the formulary (and supporting documents/guidance) met their needs. This compared with 45 per cent of medical staff and 74 per cent of nurses across Wales.

77. We scored organisations on the number of mechanisms they have in place to share information with staff about changes to the formulary[25]. The Health Board scored 32 points out of a possible 50 compared with an average of 38 across Wales. The main area of weakness at the Health Board was in the production and sharing of detailed drug information for various staff groups.

78. The British National Formulary (BNF) is published to provide prescribers, pharmacists, and other healthcare professionals with up-to-date, consistent information about medicines. It is important that staff on the wards can readily access the most up-to-date version of the BNF. Exhibit 13 shows the percentage of medical staff that agreed or strongly agreed with the statements about the BNF when on the wards. The exhibit shows that at the Health Board fewer doctors than average had access to an electronic version of the BNF. The Health Board's self-assessment against the Standards recognises that more needs to be done to make guidance more available to non-medical prescribers through better computer access and raised awareness of existing sources of guidance. Access to computers at ward levels is limited and affects access to the formulary and blue, red, amber and green (BRAG) list which relates monitoring requirements of each drug, therefore secondary care prescribers do not recognise potential issues with dispensing this drug in a community setting. One positive use of technology is the smartphone application which has been developed for antimicrobial prescribing.

Exhibit 13: Medical staff in the Health Board had fairly similar views about access to the BNF as staff in the rest of Wales, although fewer doctors could access the BNF on computer

	Health Board	Wales
The most up-to-date version of the BNF is readily available in hard copy	64%	60%
I can easily access the BNF using a computer	29%	40%
I tend to access the BNF using a smartphone	26%	22%

Source: Wales Audit Office survey of medical staff

Electronic prescribing

In common with the rest of Wales, electronic prescribing is not in place on the Health Board's wards

79. Electronic prescribing is the computer-based generation, transmission and filing of a prescription for medication. Electronic prescribing systems in secondary care can allow quicker, safer and cost-effective transfer of information[26]. These systems provide a considerable opportunity to influence the prescribing behaviour of secondary care clinicians by reinforcing and reminding staff about the Health Board's prescribing priorities.

[25] We considered whether committees cascade their decisions to staff, whether bulletins are shared, whether detailed information on each drug is shared, and whether the website is updated.

[26] 1000 Lives Plus, **Achieving prudent healthcare in NHS Wales**, June 2014

80. None of the Health Board's wards have implemented electronic prescribing. This is in line with the situation across Wales as the Health Board is aligned to the NHS Wales Information Service (NWIS) national programme priortities, and the earliest implementation date is five years hence, although some health boards are currently implementing electronic prescribing in outpatients and are actively seeking funding to implement electronic prescribing for inpatients.

Non-medical prescribing

The Health Board has invested in non-medical prescribers and has the required policies in place but it now needs to ensure the people with these skills are used in the right places to meet demand

81. Training pharmacists, nurses and other non-medical staff as prescribers can improve patient access to medicines advice and expertise, contribute to more flexible team working and result in more streamlined care[27].

82. Health boards across Wales struggled to provide us with comprehensive data on the number of non-medical prescribers within their staff, and they particularly struggled to provide the number of these staff that were regularly using their skills. Across Wales, health boards report having between 44 and 303 supplementary prescribers in place. Four health boards provided information about the proportion of nurses and pharmacists that were regularly prescribing, but only two recorded this information for other non-medical staff groups. The Health Board has 273 nurses, 25 pharmacists and five other non-medical professionals who are independent or supplementary prescribers. The Health Board was unable to confirm how many non-medical prescribers are regularly prescribing. Positively the Health Board is using non-medical prescribers, however this development has been adhoc and there are no specific service development plans. More could be done to plan new services which could be supported by non-medical prescribers to free up senior clinicians' time.

83. In response to our survey, 30 per cent of pharmacy staff, 36 per cent of doctors and 38 per cent of nurses agreed or strongly agreed with the statement 'Staff trained in non-medical prescribing are regularly using these skills'. This compares with 29 per cent of pharmacy staff and 28 per cent of doctors and 33 per cent of nurses across Wales. Our clinical pharmacy review showed that pharmacy staff rarely prescribe on the wards. At the Health Board, pharmacy staff wrote 1.9 prescriptions for every 100 patients reviewed. Across Wales, the average was only slightly lower, at 1.5 prescriptions per 100 patients reviewed.

84. Exhibit 14 shows how the Health Board compares to others in Wales relating to non-medical prescribing policies.

[27] Supplementary prescribers can only prescribe in partnership with a doctor or dentist. Independent prescribers can prescribe for any medical condition within their area of competence.

Exhibit 14: The Health Board has all four of the key policies on non-medical prescribing in place

Does the Health Board have these policies in place?	This Health Board	Wales
Criteria for selecting staff to train as non-medical prescribers	Yes	In place at five health boards
Mechanism for recording non-medical prescribers and sharing this list with appropriate directorates	Yes	In place at all health boards
Support mechanisms for ensuring non-medical prescribers maintain their knowledge	Yes	In place at all health boards
Competency requirements to maintain validation as a non-medical prescriber	Yes	In place at three health boards

Source: Wales Audit Office Core Medicines Management Tool

85. In response to our survey, 14 per cent of pharmacy staff and 14 per cent of doctors across Wales agreed or strongly agreed with the statement 'The Health Board has good controls in place to monitor the performance of non-medical prescribers'. In the Health Board 14 per cent of pharmacy staff and 21 per cent of doctors and 28 per cent of nurses agreed or strongly agreed[28]. The Health Board told us of several mechanisms for monitoring the competence of non-medical prescribers:

- Corporate guidance requires CPGs to have a system in place for the performance monitoring of non-medical prescribers and to conduct audits to review whether prescribing is appropriate and cost-effective.
- All non-medical prescribers are required to submit an annual declaration on their continuing professional development (CPD) activities. This is reviewed as part of their personal development review and appraisal.
- Each non-medical prescriber has a designated supervisory medical practitioner (DSMP) or experienced nurse prescriber.
- Every newly qualified non-medical prescriber is required to produce a personal formulary which has to be signed by the line manager and the DSMP and submitted to divisional non-medical prescribing leads.
- All CPGs are required to submit an annual update against the medicines management nurse strategy, which includes non-medical prescribing, CPD and audit.

Administration of medicines

The Health Board has taken direct action in response to *Trusted to Care* and we found there were comparatively few occurrences where it was not clear if a dose had been omitted or not

86. **Trusted to Care** highlighted serious problems in the way that medicines are administered and recorded. All organisations have produced action plans to respond to **Trusted to Care**. The Health Board set up a **Trusted to Care** group to address the actions being taken in response to the report, there is also a specific action plan for pharmacy. This work has involved the Medical Director and the Director of Nursing. The Board has also received updates on the action plan progress against the **Trusted to Care** issues.

[28] Forty per cent or more of doctors and nurses said they did not know.

87. In response to our survey, 83 per cent of pharmacy staff and 30 per cent of doctors[29] and 58 per cent of nurses agreed or strongly agreed with the statement 'The organisation has taken appropriate action in relation to the **Trusted to Care** report (the Andrews Report). This compares with 82 per cent of pharmacy staff, 34 per cent of doctors and 66 per cent of nurses across Wales.

88. The Health Board has undertaken a review of the drugs cupboards and fridges across all sites, and has replaced where the risks associated are the greatest. Further replacements are currently on hold due to the potential of an All Wales procurement exercise which could minimise costs for the Health Board. During our ward visits, staff told us that there were issues with controlled drug cupboards not being fit for purpose and lack of storage space at ward level. On one ward we observed medication left unattended which belonged to a patient who had been discharged and mobile drug cupboards not secured to the walls as required.

89. **Trusted to Care** mentions delayed and omitted doses, and particular problems with confused and immobile patients being unable to take their pills without supervision and therefore not getting their medication on time, or at all. There can be justified reasons why a dose is missed, such as the patient refusing to take their medicines. However, sometimes doses are missed because the drug is not available on the ward or sometimes poor record keeping means it is not clear from the drugs chart whether a dose has been omitted or not. The latter is particularly dangerous because when the drugs chart has not been properly completed it risks the patient being given their medication twice. Our clinical pharmacy review covered 137 patients over a 24-hour period across nine wards in the Health Board. The audit identified 15 occurrences where a drug was not available and four occasions where it was unclear whether a dose had been omitted or not.

90. The Health Board has also introduced Ward to Board metrics to strengthen its knowledge of performance at ward level. There are 11 domains in the assessment, which is undertaken every month across the hospital. The results are derived from a number of Quality and Safety audit processes, and brought together to form a percentage score for each domain. One of the 11 is medicines administration and storage, which is an assessment of the controlled drug cupboards and aseptic facilities as well as a composite of the wards assessment of its compliance with patients' drug charts. Results are displayed at ward level, and used to inform the quality and safety metrics for the hospital. It is positive that medicines management forms part of this, and the development of this has been driven by the Director of Nursing.

91. Exhibit 15 provides a breakdown of the reasons why patients were not given their medicines and compares this with the situation across Wales.

[29] Around 40 per cent of doctors said they did not know.

Exhibit 15: The reasons for a missed doses vary between hospital sites, with Wrexham having a high proportion of cases where medicines were not available. Across the Health Board, it was rare to find occurrences where it was unclear if a drug had been omitted or not.

Reason why patients did not receive their medicine							
	Prescriber's request	Patient not on ward	Patient unable to receive medicine/ no access	Patient refused medicine	Medicine not available	Other reason: see notes	Unclear if dose omitted or not
Code used on chart	**X**	**2**	**3**	**4**	**5**	**6**	**No code**
Ysbyty Glan Clwyd	25%	0%	0%	25%	0%	25%	25%
Ysbyty Gwynedd	35%	0%	4%	51%	5%	5%	0%
Wrexham Maelor	18%	2%	2%	55%	12%	6%	6%
Betsi Cadwaladr	31%	0%	4%	52%	6%	6%	2%
Wales average	**18%**	**0%**	**8%**	**45%**	**8%**	**9%**	**12%**

Source: Wales Audit Office clinical pharmacy review (patient log of 137 patients)

92. The standards of the Nursing and Midwifery Council state that a 'policy must be in place and adhered to in assessing the competence of an individual to support a patient in taking medication'. Those standards also set out the responsibility of nursing staff in assessing patients' competence to self administer their medicines. We found that only two per cent of wards in the Health Board have a procedure for self-administration (compared with 25 per cent across Wales). Across Wales our clinical pharmacy review found that very few patients were administering their own medicines. Out of 994 patients across Wales, only 12 were self-administering and only three of these had been risk-assessed. A further 120 patients were self-administering in a limited way. At this Health Board, two patients were self-administering and 14 were self-administering in a limited way. One patient had been risk assessed.

Supporting patients with compliance

The Health Board needs to do more to assess patients' compliance needs, support patients to take their medicines properly and understand the reasons for the variation in utilisation across its helplines

93. Studies[30] have shown that up to half of all patients do not take their medicines as intended. Not taking medicines appropriately also has important implications for patient safety and can result in considerable waste, particularly when you consider that the Health Board spent £46.6 million on medicines in 2013-14. This may be because patients do not fully understand the instructions for taking their medicines or because they are physically unable to administer the medicines themselves. NHS bodies should make information readily available and proactively identify patients who need extra support in taking their medicines.

[30] 1000 Lives Plus, **Achieving prudent healthcare in NHS Wales**, June 2014

94. We scored organisations by considering the actions they take to support people to comply with their medicines[31]. The Health Board scored 19 out of a possible 32 points, compared with an average of 17 across Wales. Key gaps within the Health Board varied between hospital sites, but included the targeting of users and groups where compliance issues are common. The Health Board could not confirm that any of our scored compliance actions were consistently in place as a matter of routine. A self-assessment against the Standards recognises that although 65 per cent of patients were given the opportunity to discuss medicines with pharmacy staff some patients were not satisfied with the information relating to adverse effects. During our interviews, some staff told us that there is scope for the Health Board to do much more to improve patient information about medicines.

95. Across Wales we found that pharmacy teams are struggling to spend enough time educating patients on their medication. In the clinical pharmacy review across Wales we found that only six per cent of patients or carers were educated on an aspect of their medication. In the Health Board, this figure was 13 per cent.

96. The results of our clinical pharmacy review found that 11 per cent of patients reviewed in the Health Board were found to have compliance issues. Across Wales the average was 20 per cent.

97. Some hospital pharmacies are not doing enough to provide medicines information to patient groups with particular information needs. Ysbyty Glan Clwyd does not provide specific information for young children, patients with visual impairments or patients using non-English languages. Wrexham Maelor, however, caters for all of these patient groups, while Ysbyty Gwynedd provides for two of the three. Across the 18 hospitals we surveyed, five produce targeted information for young children, seven cater for the visually impaired, and eight provide medicines information in non-English languages.

98. The **Professional Standards for Hospital Pharmacy Services** (the Standards) state that patients should be able to call a helpline to discuss their medicines. This can be particularly important in supporting discharged patients who are unsure about their medication regime. Each pharmacy is the initial patient contact for medicine queries and the Health Board also runs three medicines information helplines. These services are staffed by medicine information staff and are available for patients, as well as GPs, clinical staff and staff in the community. Monitoring of the use of this service is part of the KPI dashboard in place.

99. Across Wales we concluded that some pharmacy helplines are under-utilised despite their importance in helping patients manage their medicines. Across Wales, the use of helplines ranged from six to 66 contacts per 100 opening hours (the average was 32 contacts). Exhibit 16 summarises key data about the pharmacy phone lines available within the Health Board.

[31] We considered whether patients are assessed on their ability to open containers, whether patients are counselled for complex and high risk medication, whether reminder charts and monitored dosage systems are used, whether targeted written information is given, whether education groups are in existence and whether GPs are made aware of patients' compliance issues.

Exhibit 16: The Health Board's helplines show varying levels of activity between hospital sites

	Total no. of hours open (Mon-Fri)	Total no. of hours open (Sat-Sun)	Average no. of contacts per 100 hours of opening
Ysbyty Glan Clwyd	40	8	21
Wrexham Maelor	40	7	43
Ysbyty Gwynedd	40	0	15
Wales average[32]	**40**	**4**	**32**

Source: Wales Audit Office Core Medicines Management Tool

Supporting discharge

Electronic discharge summaries, estimated date of discharge and discharge medication reviews are used less in the Health Board than average

100. It is good practice for hospital staff to begin planning a patient's discharge as soon as possible[33]. By estimating the date of their discharge this can ensure all staff are working towards the same timescale and can prevent unnecessary delays. Across Wales we found that 47 per cent of patients reviewed through the clinical pharmacy review had an estimated date of discharge. At the Health Board only 25 per cent of patients had an estimated date of discharge, with all of the 57 patients at Wrexham Maelor not having an estimated date of discharge.

101. A patient's discharge from hospital can be delayed for various reasons. Exhibit 17 summarises the views of doctors, nurses and pharmacy staff about the most common causes of delays to discharge that are medicines-related.

[32] Wales average is calculated across 12 hospital sites where a Helpline service is provided. Six sites do not provide a dedicated helpline, but three of these do offer patients a contact number in case of medication problems following discharge.

[33] College of Emergency Medicine, **The Silver Book: Quality Care for Older People with Urgent and Emergency Care Needs**, June 2012.

Exhibit 17: Pharmacy staff and doctors had slightly differing views about the most common causes of medicines-related delays to discharge

	Views of pharmacy staff	Views of doctors and nurses
1 (most common)	Waiting for prescription to be written	Waiting for medicines to be dispensed in the dispensary
2	Waiting for medicines to be dispensed in the dispensary	Waiting for prescription to be written
3	Waiting for medicines to be delivered to the ward	Waiting for medicines to be delivered to the ward
4	Waiting for prescription to be clinically checked	Waiting for prescription to be clinically checked
5	Waiting for the to take out (TTO) to be assembled on the ward	Waiting for the TTO to be assembled on the ward

Source: Wales Audit Office surveys of pharmacists and medical staff

102. When patients are discharged from hospital, the interface between the hospital and the patient's GP is vital to ensure safe and effective medicines management. The Standards state that arrangements should ensure 'accurate information about the patient's medicines is transferred to the healthcare professional(s) taking over care of the patient at the time of the transfer.' Both Wrexham Maelor and Ysbyty Gwynedd have a standard template applied to some specialties that sets out the information to be provided to GPs upon a patient's discharge. Ysbyty Glan Clwyd does not have this arrangement in place. Across Wales, 17 out of 18 hospitals that we reviewed have a template to capture medicines information on discharge, but only 10 of these apply it across all specialties.

103. The Standards state that organisations should 'monitor the accuracy, legibility and timeliness of information transfer. Gwynedd, Glan Clwyd and Wrexham Maelor hospitals have audited the quality and timeliness of discharge information in the past two years. Our primary care prescribing report said that GPs were concerned and dissatisfied with the lack of information provided in discharge letters and about the amount of time it takes for these letters to be received.

104. In our survey, 43 per cent of pharmacy staff, 31 per cent of doctors and 42 per cent of nurses agreed or strongly agreed with the statement 'The discharge information about patients' medicines provided to GPs is of high quality'. This compared with 41 per cent of pharmacy staff, 30 per cent of doctors and 43 per cent of nurses across Wales.

105. In the Health Board, 20 per cent of wards produce electronic discharge summaries. This compares with 34 per cent across Wales. An electronic discharge system called Medicines Transcribing and e-Discharge (MTeD) is being used on two wards in the Health Board at Ysbty Gwynedd and the other at Ysbty Glan Clwyd. This system is designed to improve the handover of care following hospital discharge to GPs and is being well received. The plans are to roll out the system across the Health Board. Staff told us that although positive, MTeD is time-consuming to input information into, and there has been no backfill allocated to support its trial. Further success could be achieved by integration of this system with the IHR. This integration of the system would reduce the input time for pharmacists at ward level as the current community medication could be automatically populated, and would only require amending by the pharmacist at ward level. In addition there are two legacy systems being used, PIMS on medical wards and most surgical wards at Ysbty Gwynedd and EPOC on medical wards at Wrexham Maelor.

106. When a patient is being discharged from hospital, staff may request that community pharmacists carry out a Discharge Medicines Review (DMR) soon after the patient's return home. These DMRs aim to ensure changes to patients' medicines initiated in hospital are continued appropriately in the community. The reviews also ensure patients are supported in adhering to their medication regime. An independent review of the DMR service in Wales estimated that each DMR costs £68.50 and that DMRs have an approximate 3:1 return on investment due to avoiding emergency department attendances, hospital admissions and medicines wastage[34]. Whilst DMRs appear to be effective, they are essentially correcting issues that have arisen in a patient's episode of care. It could be argued that expenditure on DMRs could be better spent upstream to prevent these issues that later require correction, for example, by improving the quality and timeliness of information sharing at the transfer of care between primary and secondary care. At the Health Board, 849 DMRs were carried out in 2013-14 at a cost of approximately £58,000[35].

107. The Health Board funded nine DMRs for every 1,000 patients discharged from hospital. This was the lowest rate across Wales, where the average was 14 DMRs per 1,000 discharges.[36]

108. The Health Board does not record the number of community referrals for DMR made by secondary care staff. Only two health boards in Wales collate this information.

Antimicrobial stewardship

Improvements have been made to the way the Health Board uses antimicrobial medicines although few wards are complying with the antimicrobial stewardship guidelines

109. Resistance to antibiotics has increased in Wales[37]. The all-Wales action plan on antimicrobial stewardship talks about the importance of promoting good antimicrobial prescribing through audit. In the past year, the Health Board has audited the following five aspects of antimicrobial use: costs, defined daily dose, point prevalence, antimicrobial resistance, and the correlation between prescribing practice and problem organisms. The Health Board's audit of antimicrobial costs has not yet been applied across all service areas. Two other health boards in Wales have audited each of these five topics, but only one has applied each audit across all service areas. The scope of our audit did not cover the findings from these audits.

110. The Health Board has an antimicrobial stewardship group in place which looks specifically at antimicrobial management. This group reports to the Strategic Infection and Prevention Group. The sub-group has an action plan aimed at eliminating preventable healthcare associated infections. In addition, there is a Health Board-wide strategy in place for antimicrobial prescribing which has been agreed. This represents an improvement in arrangements from work undertaken by Professor Duerden in 2013[38].

111. Compliance with the strategy at ward level is being monitored through an audit programme, however, clinical engagement in this is weak and the number of wards complying with the guidelines is low. The antimicrobial stewardship team is struggling to improve this.

---

[34] Cardiff University, **Evaluation of the discharge medicines review service**, March 2014

[35] We have calculated this cost by multiplying the number of DMRs carried out by £68.50.

[36] We have used the number of discharges in 2013-14 at acute hospitals as the denominator in this paragraph.

[37] Public Health Wales, **Antimicrobial resistance and usage in Wales (2005-2011)**, November 2012

[38] Professor Brian Duerden, **Review of Governance arrangements, Structures and Systems for the Prevention and Control of Healthcare associated Infections in the Betsi Cadwaladr University Health Board**, March 2013

Part 5

Monitoring pharmacy services

Rates of medication-related admissions and safety interventions are comparatively high. Learning could be more effective through increased clinical engagement and there is scope to strengthen performance monitoring

Performance reporting

There is scope to strengthen performance reporting through benchmarking and more detailed reporting to the Board

112. The **Professional Standards for Hospital Pharmacy Standards** (the Standards) state that agreed key performance indicators should be in place to enable internal and external assessment of performance. Performance should also be benchmarked against other relevant organisations.

113. The Pharmacy and Medicines Management CPG is held to account through monthly meetings with the Chief Operating Officer and Director of Finance. These reviews focus on the financial performance of the CPG as well as overall performance.

114. We reviewed the Directorate's Key Performance Indicator (KPI) Scorecard. This provides monthly data on KPIs including dispensing error rates, medicines reconciliation rates, performance of the medicines information service and the percentage of staff with a valid performance review. Information is presented for each site and at a Health Board level, there is a risk rating attached to each as well as targets. A number of the targets were red indicating they were not complying.

115. Although reporting within the CPG appears adequate the only indicators reported to the Board are within the **Trusted to Care** report or are related to finances. This is not an adequate representation of the scope and work of the Pharmacy and Medicines Management CPG.

116. We concluded there is scope to strengthen performance reporting and monitoring in relation to medicines management. We found no evidence of benchmarking or comparison with other health boards. Our survey that showed 38 per cent of pharmacy staff agreed with the statement 'I am regularly given an opportunity to see data relating to the pharmacy team's performance'. This was the same figure for pharmacy staff across Wales.

117. We asked health boards to provide examples of how they monitored patient experience in relation to medicines management. The Health Board monitors Datix for information on patient experience and also utilises the inpatient survey results. Positively, all sites have undertaken their own customer surveys, patient satisfaction surveys and use feedback cards. We were also provided with the results of an external survey undertaken recently on behalf of the Health Board of 380 patients which received a 40 per cent response rate, this identified that not all patient had access to pharmacy and information given to patients on side effects needed to improve.

Safety interventions and medication-related admissions

The recorded rate of medication-related admissions was higher than the Wales average and the rate of pharmacy team safety interventions was the highest of all health boards

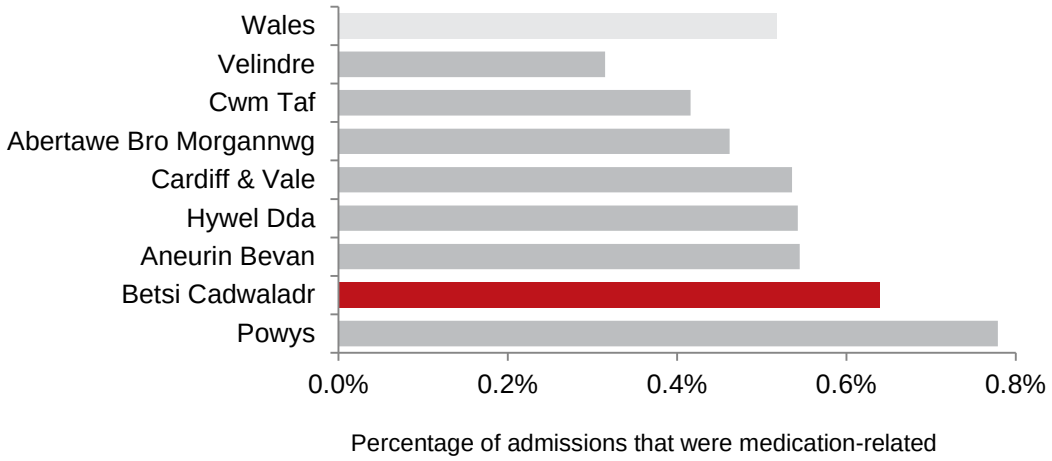
118. Medicines management is a complicated set of processes and there is potential for things to go wrong at numerous stages. The absolute focus for health boards should be in ensuring safe practices. Where errors or incidents are identified in relation to medicines, health boards should act decisively and openly to learn lessons and prevent repeat incidents.

119. In our survey, 69 per cent of pharmacy staff, 64 per cent of doctors and 75 per cent of nurses agreed or strongly agreed that 'I would feel safe having my medicines managed at this hospital'. Across Wales, 74 per cent of pharmacy staff, 64 per cent of doctors and 78 per cent of nurses agreed or strongly agreed.

120. When something goes wrong with someone's medication it can directly cause an admission to hospital. Exhibit 18 shows the results of a national audit on the rate at which patients were admitted to hospital as a result of problems with their medication. The rate of these admissions at the Health Board is higher than the Welsh average, which the Health Board relates to work they are currently piloting around accuracy of coding. Data is taken from the NHS Wales Informatics Service but is complicated by the fact that coding teams take differing approaches to coding the causes of admissions. The scale of the problem with medication-related admissions is therefore potentially understated.

121. Health Board pharmacists are working with Clinical Coding to develop a system to better capture medication-related admission data. It is the pilot site for Wales and the United Kingdom to improve the recording, reporting and feedback of medication-related admission data. For example, in response to patients being admitted to hospital with acute kidney injury (AKI) as a result of dehydration compounded by some classes of medicines, a leaflet was produced and is now used within the Health Board to advise patients how to manage their medicines if they become acutely unwell. The leaflet was being used on a dementia care ward, which had many issues regarding preventable AKI prior to regular input from pharmacy, with 15 admissions in 12 months due to preventable AKI. The ward pharmacist held daily reviews to look at contributing factors so as they could be dealt with early. As a result, no patients had to be transferred for medical intervention in the next nine months.

Exhibit 18: The proportion of admissions that are medication-related is higher than the all-Wales average



Source: NHS Wales Informatics Service. Data, by provider, cover 1/7/2012 to 31/6/2013.

122. Our clinical pharmacy review also looked at medication-related admissions and found a considerably higher proportion of medication-related admissions than in the exhibit above. At the Health Board, 10 per cent of patients seen by the pharmacy team were considered to be admitted due to a medication-related issue[39]. This matches the rate across Wales. Using these figures, the estimated cost of admissions due to medication issues in the Health Board in 2013-14 would be £4.3 million[40].

123. Part of the pharmacy team's role is to make important interventions when a patient's safety is at risk. Such patient safety interventions may be necessary if, for example, a patient is allergic to penicillin but is prescribed penicillin, or if an insulin-dependent diabetic patient is not prescribed insulin. Our clinical pharmacy review identified 52 occasions in the Health Board where pharmacy teams intervened because a patient's medication regime could have significantly compromised their safety. This represents a rate of 10 occurrences for every 100 patients reviewed. This was the highest rate across Wales, where the average was four in every 100 patients reviewed. These data suggest that the pharmacy team is commonly acting as a backstop to find and correct the mistakes of other staff. The Health Board should consider these data further and decide whether more pharmacy team resources should be diverted to addressing the root causes and stopping errors and near misses happening, rather than correcting them once they have been made.

[39] Patients were deemed to have a medication-related admission if the documented, initial diagnosis included a possible problem with medication, including adverse drug reaction, non-compliance, non-evidence based prescribing, dispensing error, poor medication advice etc.

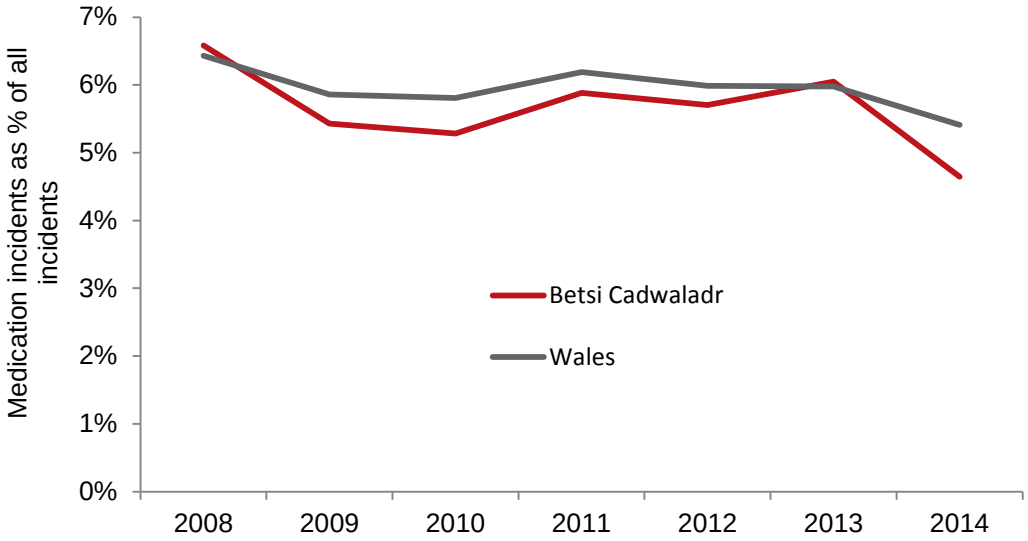
[40] We used a cost per admission of £456, the figure defined in Cardiff University's **Evaluation of the Discharge Medicines Review Service**, March 2014. The Health Board told us there were 94,021 inpatient admissions in 2013-14 (Wales Audit Office Core Medicines Management Tool). Ten per cent of this is 9,402.

Learning when things go wrong

Clinical engagement with the local Safer Medicines Groups needs to improve and there is mixed evidence about the effectiveness of learning processes

124. Health boards should report all patient safety incidents to the National Reporting and Learning System (NRLS) so that national analyses and comparisons can be made. Exhibit 19 shows the number of medication-related incidents reported as a percentage of all incidents reported to the NRLS.

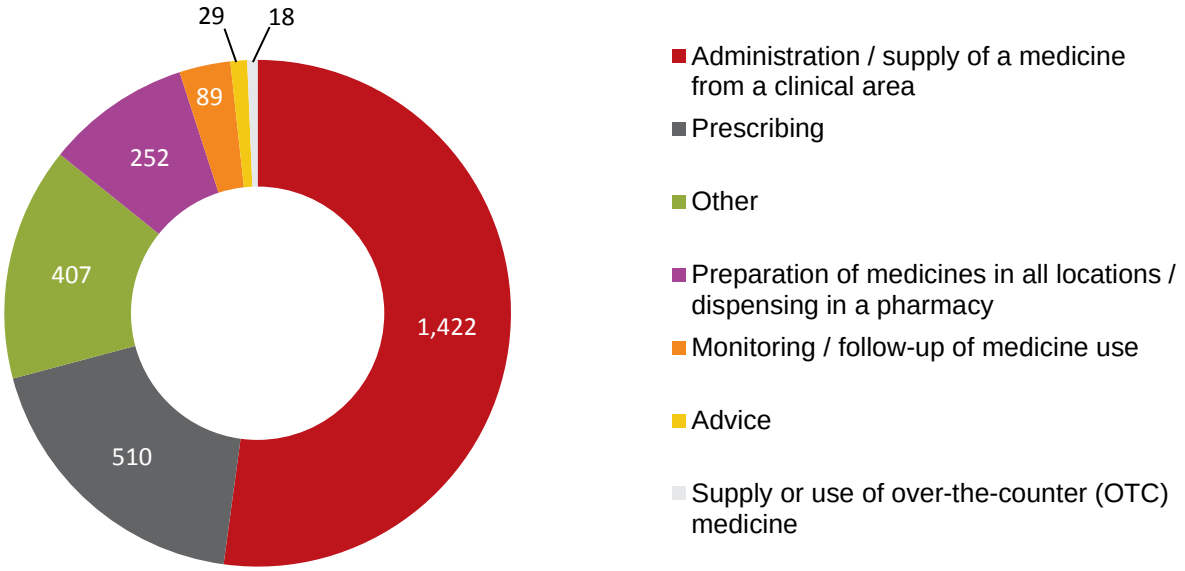
Exhibit 19: The proportion of incidents that were medication related has generally remained below the Wales average and fell below five per cent in 2014, although the 2014 data cover only the first quarter of the year



Source: NRLS, NHS Commissioning Board Special Health Authority. Data for 2014 include incidents reported before 31 March 2014.

125. Exhibit 20 (on the next page) shows the types of medication-related incidents that were reported by the Health Board to the NRLS. The most common category of incident was 'Administration/supply of a medicine from a clinical area' which covers all stages of the administration process from reviewing the prescription, selecting the correct medicine, identifying the correct patient and administering the dose.

Exhibit 20: Medication-related incidents in the Health Board are most commonly associated with the administration and supply of medicines from clinical areas



Source: NRLS, NHS Commissioning Board Special Health Authority (1/4/2008 to 31/3/2014). Further details on the categories can be found at the following link: https://www.eforms.nrls.nhs.uk/staffreport/help/AC/Dataset_Question_References/Medicine_incident_details/MD01.htm

126. In our survey, 75 per cent of pharmacy staff agreed or strongly agreed with the statement 'Medicines-related incidents/errors are reported and handled appropriately at this hospital', compared with 71 per cent across Wales. When asked whether they agree with the statement 'Information obtained through incident/error reports is used to make patient care safer', 68 per cent agreed or strongly agreed (compared with 70 per cent across Wales).

127. The pharmacy team plays a key role in ensuring that safe medication practices are embedded in the Health Board. Learning from medication errors and systems failures related to medicines should be shared with the multidisciplinary team and acted upon to improve practice. Incidents relating to dispensing are discussed at the Health Board Quality and Safety meetings, a recent example being work around thrombosis which has led to a change in practice across the Health Board, as well as technician and pharmacist meetings. The safer patients groups and safer medicines groups are also identifying issues that need to be highlighted, but these suffer from poor levels of attendance from clinicians. The Health Board's self-assessment against the Standards recognises scope for improvement, noting that there are difficulties in feeding back information to professionals in a non-challenging manner and under reporting of yellow cards.

128. Some patients can suffer negative impacts from taking their medication which are known as adverse drug reactions. Some reactions are unexpected but some are predictable. The Academy of Medical Royal Colleges[41] has calculated that four in 100 hospital bed days are caused by adverse drug reactions in the United Kingdom. In the Health Board, adverse reactions represent an approximate cost of £11.6 million per year in bed days alone[42].

129. When patients experience adverse reactions as a result of their medicines, staff should report these events to the MHRA via the Yellow Card Scheme. In the Health Board, hospital pharmacists represent the professional group that reports the most adverse events, in common with the average position across Wales[43]. This suggests that it may be beneficial to promote the Yellow Card Scheme to staff groups other than pharmacists. Our clinical pharmacy review identified eight occasions where pharmacy teams identified symptoms of potential adverse drug reactions or side-effects when reviewing patients. This represents a rate of 15 occurrences for every 1000 patients reviewed and was the highest across Wales, where the average was six occurrences for every 1000 patients reviewed.

130. In our survey, 58 per cent of pharmacy staff, 27 per cent of doctors and 35 per cent of nurses agreed or strongly agreed with the statement 'Use of the Yellow Card Scheme is promoted effectively in this Health Board'. This compared with 59 per cent of pharmacy staff, 31 per cent of doctors and 29 per cent of nurses across Wales.

131. Health bodies should have in place a medication safety committee. This should be a multi-professional group to review medication error incidents and improve medication safety locally[44]. The Health Board has three safer medicines groups; East, West and Centre whose terms of reference meet this criteria. These groups meet bi-monthly and are made up of medical staff, pharmacy staff as well as nursing staff. However attendance at these groups is an ongoing issue for the Health Board. These locality groups report to the Safer Medicines Steering Group, which provides overarching leadership and direction to to the locality based safer medicines groups, this group has senior nursing and clinical representation.

[41] The Academy of Medical Royal Colleges, **Protecting resources, promoting value: A doctor's guide to cutting waste in clinical care**, November 2014.

[42] Stats Wales data shows that the total number of bed days in the Health Board in 2013-14 was 699,413 and the cost of an inpatient bed day across Wales is £413 on average.

[43] Yellow Card Centre Wales, **Annual report: 2013-14**

[44] Medicines and Healthcare Products Regulatory Agency, **Improving medication error incident reporting and learning**, 20 March 2014

Appendix 1

Methodology

Our audit consisted of the following methods:

Method	Detail
Core medicines management tool	The core tool was the main source of corporate-level data that we requested from the Health Board/trust. The tool was an Excel-based spreadsheet.
Document request	We requested and reviewed approximately 47 documents from the Health Board.
Clinical pharmacy review	The clinical pharmacy review was completed by pharmacy teams on the following wards: • Ysbyty Glan Clwyd – Ward 3, Ward 11, Dinas • Ysbyty Gwynedd – Dulas, Glyder, Hebog • Wrexham Maelor hospital – Gwanwyn, Mason, Pantomime The tool aimed to record activity of pharmacy teams during ward visits.
Interviews	We interviewed a small number of staff including: Chief of Staff, Clinical Directors, Lead Pharmacist Patient Safety, Medical Director, Director of Nursing, and Lead pharmacists at each site. We also met a number of ward staff, pharmacists and technicians.
Walkthroughs	We visited all acute hospitals within the Health Board where we carried out an observation within the hospital pharmacy/dispensary. We also visited the following wards where we spoke to staff and carried out a drug chart review: • Wrexham Maelor – Gwanwyn Ward and Erdigg Ward • Ysbyty Glan Clwyd – Ward 2 and Ward 3 • Ysbyty Gwynedd – Hebog Ward and Conwy Ward
Surveys of medical and nursing staff	We carried out an online survey of a sample of medical and nursing staff to ask their views on the effectiveness of medicines management within the organisation. We received 74 responses from doctors (52 of whom were consultants). Across Wales we received 413 responses from doctors. In the Health Board we received 122 responses from nurses (and across Wales we received 377 responses from nurses).
Survey of pharmacy staff	We carried out an online survey of pharmacy staff to ask their views on the effectiveness of medicines management within the organisation. We received 60 responses in total, with 28 staff based at Ysbyty Gwynedd, 23 based at Wrexham Maelor Hospital and nine based at Glan Clwyd Hospital. Across Wales we received 407 responses from pharmacy staff.
Use of existing data	We used existing sources of data wherever possible such as incident data from the National Reporting and Learning System, data from the Cardiff University review of the Discharge Medicines Review Service and the NHS Wales pharmacy resource mapping exercise 2014.

Appendix 2

Health Board's management response to our recommendations

We have set out below the Health Board's management response to our recommendations which was presented to the Audit Committee on the 17 September 2015. The management response is the responsibility of the Health Board and sets out how it intends to implement the recommendations set out in this report.

Ref	Recommendation	Intended outcome/ benefit	High priority (✓)	Accepted [Y/N]	Management response	Completion date	Responsible officer
1a	Translate the clear direction which has been developed through effective consultation into a formal strategy for medicines management, which clearly outlines measures of success.	A clear future direction for improving medicines management that is supported by all relevant staff.	✓	Y	The draft strategic plan 2015 - 2018 has been developed in consultation with Health Board directorates, stakeholders & professions. The strategic plan is complemented by a more detailed annual operational plan. The strategic plan summarises what the organisation will be aiming to achieve. The operational plan sets out how we plan to do that, and how we report on progress against the objectives. The strategic plan reflects the Health Board's vision for improving health and providing excellent care through better medicines management across five themes. Key objectives are also included within the Health Board 2015/16 Integrated Medium Term Plan e.g.	September 2015	Chief Pharmacist, Area & Secondary Care Directors

Ref	Recommendation	Intended outcome/ benefit	High priority (✓)	Accepted [Y/N]	Management response	Completion date	Responsible officer
					a) targeted community pharmacy smoking cessation; b) improving antimicrobial stewardship; and c) implementing electronic discharge. An annual rolling plan will update the strategy for 2016 – 2019 starting in January 2016.		
1b	Take steps to ensure that Pharmacy and Medicines Management is engaged in senior decision making forums, as well as ensuring that additional pharmacy working hours are targeted to the areas of Health Board priority.	Pharmacy staff has greater influence on decision-making. Pharmacy service provision is better aligned to the organisation's priorities.		Y	The Executive Director of Nursing & Midwifery Services has overall responsibility for Medicines Management supported by the Medical Director for a) new drug introductions via Drugs & Therapeutics Group D&TG); b) Individual Patient Funding Requests; and c) prescribing governance. The Chief Pharmacist/Head of Medicines Management (Central) is responsible for the strategic direction, medicines policy & governance (including controlled drugs accountability), professional standards, and continuing fitness to practice. The Medicines Management Division is hosted by the Area Director (Central) whilst the three Heads of Medicines Management report to their respective Area Directors for operational delivery. Heads of Meds Mgt attend their Area Operational Management Group.	July 2015	Exec Director of Nursing & Midwifery, Medical Director, Area Director (Central), Chief Pharmacist

Ref	Recommendation	Intended outcome/ benefit	High priority (✓)	Accepted [Y/N]	Management response	Completion date	Responsible officer
					A senior hospital pharmacist is a member on each Hospital Management team. The Chief Pharmacist is a member of the Strategic Infection Prevention Executive Group and the Mental Health Improvement Group.		
1c	Ensure individual patient funding request panels have two lay members and carry out further work to understand why the number of funding applications is so comparatively high.	Compliance with national requirements for IPFR panels and better decision making.		Y	The lay membership has been reviewed and now includes two members. The high number of requests is due to the internal control process with NICE adherence across BCUHB. Clinicians require D&TG approval for non N ICE medicines to avoid postcode prescribing whereas this is delegated to directorates within other Health Boards. WG has commissioned the All Wales Medicines Strategy Group (AWMSG) review IPFRs to ensure local policy aligns to new national guidance.	October 2015	Medical Director, Chief Pharmacist, & Chair of D&TG and IPFR panel

Ref	Recommendation	Intended outcome/ benefit	High priority (✓)	Accepted [Y/N]	Management response	Completion date	Responsible officer
2a	Develop a plan to ensure adequate succession planning for the Pharmacy and Medicines Management CPG.	The future pharmacy staffing level and skill mix is sufficient to meet demand.	✓	Y	Workforce plan included within the 2015/16 IMTP. Annual review ongoing of workforce by age, skill, turnover, potential retirement as well as development of new/extended roles to ensure Meds Mgt has a sustainable workforce for the future e.g. primary care GP clusters. Cancer, Critical Care and Mental health has Medicines Management Groups. Other specialties need to establish similar groups e.g. Medicine, Surgery.	July 2015	Chief Pharmacist, Area & Secondary Care Directors
2b	Hold workshops with pharmacists, nurses and doctors to explore views expressed in our survey that the pharmacy team priority should be to improve discharge processes and that the most common cause of discharge delay is due to waiting for prescriptions to be written.	Better understanding and shared agreement on the priority areas for improvement in pharmacy services.		Y	Picker survey reviewed in relation to discharge. Discharge improvement groups including patients to be established across each hospital site and aligned to the Unscheduled Care programme. Improvements to include Doctor led predicted date of discharge and increased patient choice in relation to pharmacy setting for dispensed medicines. An Electronic Discharge system (MTED) is being rolled out across the Health Board. Business case proposed for all Medical and Surgery wards to have system in place by April 2016.	December 2015	Medical Director, Secondary Care Director, Chief Pharmacist

Ref	Recommendation	Intended outcome/ benefit	High priority (✓)	Accepted [Y/N]	Management response	Completion date	Responsible officer
					7/7 pharmacy working established in YG. Further phased roll out for YGC and YMW.		
2c	Develop a fully funded plan to strengthen medicines management training for junior doctors building on good practice at Ysbyty Gwynedd.	Better medicines management training for doctors and improved safety levels.		Y	Funded undergraduate medicines management training is in place. Medicines Management Induction for FY1/FY2 to include a prescribing test.	January 2016	Medical Director, Chief Pharmacist
3a	Implement a regular audit programme of the preparation of injectable medicines on the wards.	Compliance with a national patient safety alert and improved safety levels in injectable medicine preparation.		Y	Audits ongoing to ensure full compliance with national standards. Implement refrigerated vehicle delivery across BCUHB. A review of sterile manufacturing facilities across BCUHB has commenced. This will form part of YGC redevelopment project in 2016-18.	October 2015	Chief Pharmacist & Secondary Care Director
3b	Minimise the current safety risks associated with storage of intravenous fluids at ward level by ensuring where possible that fluids are secured in a locked room or cupboard.	More secure and better regulated storage of intravenous fluids.	✓	Yes	All wards have been inspected and a full assessment of improvements required and cost. A business plan has been done with full roll out in line with ward redevelopment/capital programme commencing, with the Ablett Unit at YGC. Continue installation of automated medicines storage units to all acute wards.	April 2015	Chief Pharmacist & Secondary Care Nurse Director

Ref	Recommendation	Intended outcome/ benefit	High priority (✓)	Accepted [Y/N]	Management response	Completion date	Responsible officer
3c	Assure itself that any significant issues highlighted in the forthcoming review of YGC's aseptic unit are addressed as a matter of urgency.	Assurance that the YGC aseptic unit complies with all standards.		Y	All major non conformance identified at the last external MHRA inspection at YGC March 2013 have been addressed and appropriate Quality Management procedures are now in place to prevent these issues happening again. We are awaiting the MHRA to re-inspect the site, this is expected January 2016. Any non conformances identified at this inspection will be documented in an action plan and rectified.	June 2015	Chief Pharmacist
4a	Set out a clear timescale and funding plan for implementing inpatient electronic prescribing, electronic discharge and rolling out access to the Individual Health Record.	Certainty over the future implementation of systems that have potential for significant safety and efficiency benefits.	✓	Y	Electronic discharge – see 2b above. IHR – access enabled to secondary care doctors and pharmacists from April 2015. Access to pharmacy technicians proposed to extend access to community pharmacists and pharmacy technicians. In relation to eelectronic prescribing (EP) – all LHB CEOs support the proposal which is included as a high priority within NWIS. No date yet identified for national roll out.	Sept 2016	Medical Director, Chief Pharmacist

Ref	Recommendation	Intended outcome/ benefit	High priority (✓)	Accepted [Y/N]	Management response	Completion date	Responsible officer
4b	Improve utilisation of self-administration by increasing the number of wards with a procedure in place.	Increased patient ownership of their own care and more efficient use of nursing time.		Y	Policy and plan established for self administration of medicines by hospital patients in BCUHB. Rolled out to two wards on each site initially. Evaluation expected December 2015.	Phase 1 completed April 2015	Secondary Care Nurse Director, Chief Pharmacist
4c	Review its Discharge Medicines Review (DMR) process to ensure its comparative use of DMRs is appropriate to local need.	Assurance that the approach to DMRs is providing value for money.		Yes	Increase the number of patients referred to community pharmacy for DMR with the use of pre-printed envelopes (Phase 1). A three to one return on investment demonstrated with reduced prescribing errors and preventing patient re-admissions. YG is testing electronic transmission of discharge medicines from the pilot ward for Medicines Transcribing & electronic discharge (Phase 2). Phase 3 would be further rolled out after Phase 2 beyond surgery and medical wards.	Phase 1 completed April 2015 Phase 2 due for completion April 2016 Phase 3 Sept 2016	Chief Pharmacist

Ref	Recommendation	Intended outcome/ benefit	High priority (✓)	Accepted [Y/N]	Management response	Completion date	Responsible officer
4d	Learn from the national work on Prudent Prescribing to develop an action plan to increase pharmacy's focus on identifying patients' compliance needs, educating/counselling patients, improving medicines information and supporting patients to take their medicines properly.	Better informed patients with better outcomes, reduced medicines waste and reduced readmissions due to medication issues.	✓	Y	Three prudent prescribing workshops held across BCUHB during 2015 attended by 75 GPs and secondary care clinicians. A campaign under the heading Your Medicines, Your Health is being rolled out to increase patient and public awareness on medicines adherence and waste reduction based on a 1000 lives "mini collaborative".	April 2015	Medical Director, Chief Pharmacist
5a	Develop a broader range of performance indicators to provide more information on performance against the priorities for medicines management.	Improved knowledge and analysis of medicines management performance.	✓	Y	Review ongoing to establish performance indicators based on the Professional Standards for Hospital Pharmacy. The English Trust based benchmarking tool DEFINE has been used since April 2015 to compare performance with other Health Boards and NHS England.	December 2015	Director of Nursing & Midwifery, Director of Performance, Chief Pharmacist
5b	Improve learning mechanisms to staff following medicines incident reporting to ensure that lessons are learnt and staff can see actions have been taken.	Assurance that lessons are learnt from errors and incidents to make sure they are not repeated.	✓	Y	The top three medicines related incidents including insulin, heparin and Oxygen have been incorporated to the Quality Improvement Plan. Medicines Standards have been implemented across acute and community including monthly audit across all wards and primary care. KPIs established with clear action plans.	July 2015	Director of Quality Assurance Chief Pharmacist

Ref	Recommendation	Intended outcome/ benefit	High priority (✓)	Accepted [Y/N]	Management response	Completion date	Responsible officer
5c	Consider whether more pharmacy resources should be diverted to addressing root causes and stopping errors and near misses to address the comparatively high pharmacy safety intervention rate.	More efficient use of pharmacy team resources and improved safety levels.		Y	This links to 2c. Analysis of errors, near misses and incidents ongoing and target actions to reduce incidence and never events e.g. VTE assessment, insulin standards.	January 2016	Medical Director, Director of Quality Assurance & Chief Pharmacist

Wales Audit Office
24 Cathedral Road
Cardiff CF11 9LJ

Tel: 029 2032 0500
Fax: 029 2032 0600
Textphone: 029 2032 0660

E-mail: info@audit.wales
Website: www.audit.wales

Swyddfa Archwilio Cymru
24 Heol y Gadeirlan
Caerdydd CF11 9LJ

Ffôn: 029 2032 0500
Ffacs: 029 2032 0600
Ffôn Testun: 029 2032 0660

E-bost: post@archwilio.cymru
Gwefan: www.archwilio.cymru